REPORT RESUMES

ED 003 114 64

A REPORT OF A STUDY OF NATIONWIDE ASSIGNMENTS OF TELEVISION CHANNELS FOR MAXIMUM SERVICE AND EFFICIENCY BY THE USE OF ELECTRONIC DIGITAL COMPUTER METHODS.

BY- BRONSON, VERNON AND OTHERS

NATIONAL ASSN. OF EDUCATIONAL BROADCASTERS

REPORT NUMBER NDEA-VIIB-292-3 PUB DATE 63

CONTRACT OEC-2-16-027

EDRS PRICE MF-$0.18 HC-$4.00 100P.

DESCRIPTORS- *TELEVISED INSTRUCTION, EDUCATIONAL TELEVISION, TELEVISION, *BROADCAST TELEVISION, OPEN CIRCUIT TELEVISION, TELEVISION SURVEYS, COMPUTERS, *COMPUTER PROGRAMS, DISTRICT OF COLUMBIA, FEDERAL COMMUNICATIONS COMMISSION (FCC)

THE OBJECTIVE OF THIS STUDY WAS TO DEMONSTRATE THE EFFICIENCY AND EFFECTIVENESS OF USING COMPUTER METHODS IN ESTABLISHING LOCATIONS OF ULTRAHIGH FREQUENCY TELEVISION BROADCASTING CENTERS. THE STUDY IS A FOLLOWUP TO A PREVIOUS SURVEY WHICH INDICATED THE NEED FOR EDUCATIONAL TELEVISION CHANNELS IN ADDITION TO THOSE AVAILABLE UNDER THE EXISTING TABLE OF ALLOCATIONS. A PROPOSED TABLE OF ASSIGNMENTS WAS DEVELOPED THROUGH THE STUDY, AND IS DESCRIBED AS ONE OF THE BEST ARRANGEMENTS POSSIBLE TO PROVIDE SERVICE FOR ALL TELEVISION BROADCAST NEEDS. ONE OF THE MORE IMPORTANT RESULTS OF THE STUDY IS THAT OVER TWICE THE NUMBER OF USABLE CHANNELS HAS BEEN ADDED TO THE FEDERAL COMMUNICATION COMMISSIONS'S TABLE OF ASSIGNMENTS. MOST OF THESE CHANNELS HAVE BEEN PLACED WERE THEY ARE NEEDED. BY ADHERING TO RULES AND STANDARDS OF THE FCC, THE PROPOSED CHANNELS WILL NOT DISTURB ANY OF THE PRESENTLY ACTIVE STATIONS. IT IS RECOMMENDED THAT THE FCC USE THE TABLE OF ASSIGNMENTS PRODUCED BY COMPUTER AS A BASIS FOR REALLOCATION AND FOR EXPANSION OF THE PRESENT TABLE TO MEET PRESENT AND FUTURE BROADCAST NEEDS. (JC)

ED003114

B-292

No 3

NAEB

A REPORT OF A STUDY OF NATIONWIDE ASSIGNMENTS OF TELEVISION CHANNELS FOR MAXIMUM SERVICE AND EFFICIENCY BY THE USE OF ELECTRONIC DIGITAL COMPUTER METHODS

NATIONAL ASSOCIATION OF EDUCATIONAL BROADCASTERS
WASHINGTON, D. C.

U. S. DEPARTMENT OF HEALTH, EDUCATION AND WELFARE
Office of Education
This document has been reproduced exactly as received from the person or organization originating it. Points of view or opinions stated do not necessarily represent official Office of Education position or policy.

A REPORT OF A STUDY OF NATIONWIDE ASSIGNMENTS OF TELEVISION CHANNELS FOR MAXIMUM SERVICE AND EFFICIENCY BY THE USE OF ELECTRONIC DIGITAL COMPUTER METHODS

Since the text of this report has been printed three omissions have been noted. In order that the data be as complete as possible the corrections on the back of this page have been included.

ERRATA

I. The items listed in Table 1c, page 7 should be defined as follows:

1. Station Type:

   First Letter

   P - channels on which there is a pending application

   O - channels on which a potential license is operating

   C - facilities for which a construction permit is held

   L - channels that are licensed and operating

   Second Letter

   E - channels reserved for educational purposes

   C - channels for which no educational reservation is held.

2. Power Output: effective radiated power.

3. Antenna Height: height above average terrain level.

4. Latitude and Longitude: Antenna Coordinates..

II. In the proposed table of assignments the digit immediately preceding "LAT" is a relative measure of the location's urban population. The significance of the digits is given in the table below.

Digit	Location's Urban Population
1	over 1 million
2	500 thousand to 1 million
3	250 thousand to 500 thousand
4	100 thousand to 250 thousand
5	50 thousand to 100 thousand
6	25 thousand to 50 thousand
7	less than 25 thousand

III. The proposed Table of assignments should be changed as follows:

1. Delete Channel 19 from channels assigned to Blackwell, Oklahoma.

2. Add Channel 19 to channels assigned to Oklahoma City, Oklahoma.

3. Delete Channel 73 from channels assigned to Denton, Texas.

4. Add Channel 73 to channels assigned to Dallas, Texas.

5. Delete Channel 26 from channels assigned to Shinglehouse, Pennsylvania.

6. Add Channel 26 to channels assigned to Williamsport, Pennsylvania.

A DETERMINATION AND EVALUATION OF A NATIONWIDE ASSIGNMENT OF TELEVISION CHANNELS USING ELECTRONIC COMPUTER METHODS, WITH SPECIAL REFERENCE TO THE PROJECTED NEEDS OF EDUCATION

A REPORT

on the Assumptions and Procedures of the Study based upon previously established needs

and

A Proposed Detailed Table of U.H.F. Television Channel Assignments

By

The National Association of Educational Broadcasters
1346 Connecticut Avenue, N.W., Washington, D.C.

In Cooperation With

The Office of Education
U.S. Department of Health, Education and Welfare

Assisted by

The Federal Communications Commission

The project reported on in this publication was conducted pursuant to a contract with the Office of Education, U.S. Department of Health, Education and Welfare, N.D.E.A. - OE-2-16-027.

All rights reserved by the National Association of Educational Broadcasters, except that reproduction in whole or in part is permitted for any purpose by the United States Government.

PROJECT DIRECTOR

Vernon Bronson

ASSOCIATE DIRECTOR

James A. Fellows

ENGINEERING CONSULTANT

Oscar W.B. Reed, Jr.

PROGRAM TECHNICAL ADVISORS

Kenneth G. Heisler, Jr.
James P. Kallenborn

Computer Program written and processed
by

Jansky & Bailey Division of the

ATLANTIC RESEARCH CORPORATION

Appreciation is especially due to Mr. Hart S. Cowperthwait, Mr. Louis R. Rein, Mr. McIvor L. Parker, Mr. William L. North, Mr. Elton D. Davis, Dr. Hyman Goldin, Dr. Lawrence Frymire and many other members of the staff of the F.C.C., who gave so generously of their time, knowledge and support of this project. Without their help, the task would have been greater and the results less certain.

TABLE OF CONTENTS

PREFACE i

INTRODUCTION 1

EXPLANATION OF PROCEDURES 3
- Determination of Locations 4
- Primary Input File 4
- Intercity File 8
- Making the Assignment 14

ANALYSIS OF RESULTS 24

SUMMARY AND APPLICATIONS 30

CONCLUSIONS AND RECOMMENDATIONS 33

TABLE OF ASSIGNMENTS 35

PREFACE

This study was designed as a follow-up to the Survey of The Needs of Education for Television Channel Allocations[1] the report of which was published by the U.S. Office of Education in the summer of 1962. The Survey indicated needs for television channels for education in the future beyond those available under the existing table of allocations. There was also an indication that existing channel distribution is not entirely compatible with the established needs.

After several conferences with members and staff of the F.C.C. and a preliminary study by the N.A.E.B. consulting engineers, it seemed probable that the number of available channels at desired locations could be materially increased if a practical saturation pattern could be devised. With the large number of variables involved and the many alternatives possible in a project of this kind, it appeared that the best hope of a valid result lay in the application of electronic digital computer methods to the problem.

The search for additional television channels proceeded on this basis. The data from the Survey of the Needs of Education provided the starting point. The procedure was straight-forward and primarily concerned with establishing locations of broadcasting centers and an index of priority based upon demographic, geographic, and educational factors. The detailed procedures and results are described in this report.

---

1. National Association of Educational Broadcasters, and the U.S. Office of Education, Survey of the Needs of Education for Television Channel Allocations, Washington: U.S. Government Printing Office, 1962.

INTRODUCTION

The Survey of the Needs of Education for Television Channel Allocations[1] which was conducted by the National Association of Educational Broadcasters under Part IV of Title VII of the N.D.E.A. made it clear that the television channel assignment structure presently in existence will not satisfy the growing needs of educational broadcasting. This study indicated that the minimum requirement of single channel coverage for education so seriously depletes the available television channels that future growth of both educational and commercial service would be severely limited.

The Survey indicated that a minimum of 1197 channel assignments is required in the next ten to fifteen years of television development in education. The study also indicated that with the best possible assignment of the presently available channels there would still be a shortage of some 311 channel assignments for the minimum educational service. With the increase in the activation of channels, and the multiplicity of the uses which are being developed to meet the increasing educational needs of the future, it is reasonable to suppose that many more channels than this minimum projection will be required. It is imperative that this great potential need, and the presently documented need be met to the fullest extent possible by a precise determination of the most adequate and efficient system for distributing the channels in the television spectrum.

With few exceptions, and for most practical purposes, the VHF channels have been distributed to the point of saturation; therefore any significant increase in the number of television channels for broadcast purposes must be derived from the U.H.F. portion of the spectrum. However, it is clear that an increase in channels by geographic saturation alone would have little value; the increase must first be related to the present and future needs. The measure of acceptability for any particular channel assignment arrangement is not necessarily the total number of channels assigned, but rather how they will meet the requirements of the communities for educational and commercial television service.

---

[1] op. cit.

To this end, the present study established a table of priorities based upon previously determined needs. Concentration of population was given major consideration as this indicated great numbers of people and diversity of interests to be served in a relatively small area. Concentration of formal educational activities, especially on the college and university levels, was a second priority; and the relative size of the geographic areas was the third measure of priority.

On this basis, and with the determination not to disturb any of the presently assigned or active channels, an effort was made to find sufficient additional broadcast television channels to serve all of the future needs of education without inhibiting the development of any other service.

EXPLANATION OF PROCEDURES

The assignment of a television channel to a locality depends upon the needs of that locality, its relationship to other places and their needs, the availability of television channels in that area, the number and frequency of stations already in that area, the location of the antenna, and the power with which the station will operate.

Much of this information is such that it does not perceptibly change from one year to the next. For the most part, the size and population of areas grow in relation to each other, the propagation of a signal is relatively constant in a specified area, the central latitude and longitude remain fixed and the distance from one community to another is always identical. This means that the information to be used as the basis for channel assignments can be gathered and prepared in such a way that it is hopeful for a long period. The application of computer technology allows the storage of information for any number of repeated uses. Once the computer has "learned" the data it is always available for instantaneous recall.

Manual assignment of channels requires much repetitious data handling each time an assignment is made. For example, the simple calculation of distance from one locality to another involves locating both places on a map and measuring the distance. Even with pre-cut templates, this process takes time and must be done for each location. When this involves a thousand or more separate places, the computer's access to these data in a matter of seconds gives it a clear advantage over the several days or weeks it would take to pinpoint this information manually.

This means that this whole stage of the assignment procedures need be done only once when the material is prepared for the computer and that it is readily available whenever needed for subsequent consultation. The implication of this for the programmers is that the utmost care must be used when preparing the data. Although errors can be corrected easily, the wide variety of applications of these data make it prudent to avoid any delays or complications becuase of incomplete or inaccurate information. Because of this a special effort was made to prepare the basic data in this report as thoroughly and as accurately as possible.

DETERMINATION OF LOCATIONS

The project began with the assumption that channel assignments should be on the basis of specific communities and that the first matter for consideration was the identification of those areas where television service is or will be needed. The initial resource was the Table of Assignments of the Federal Communications Commission.[1] The Table was supplemented by the addition of communities selected because of their projected educational needs for television service. These needs were established and documented by the N.A.E.B Survey of the Needs of Education for Television Channel Allocations[2] and by subsequent research into the number and nature of educational institutions at these population centers. The final number of locations where television service was needed was set at 1417, some 180 more than the number of individual locations in the current F.C.C Table of Assignments. The actual locations are listed in the Computer Assignment Table at the end of this report.

PRIMARY INPUT FILE

Having selected the locations to which the computer would be asked to assign television channels, the next step is to gather all the information needed and prepare it for feeding into the computer. For each of the 1417 locations, the facts outlined in Tables 1a, 1b, and 1c are now stored in the computer.

---

1. Federal Communications Commission, Rules and Regulations, Volume III, September, 1961, Subpart E, Section 3.606, as revised to 12/31/62.

2. op.cit.

Table 1a

BASIC INFORMATION FOR EACH LOCATION
SAMPLE: Washington, D.C.

LOCATION	Washington
STATE	D.C.
STATE-CITY NUMBER	800100
SERIAL NUMBER	181
URBAN POPULATION	1,808,000
URBAN AREA	341
EDUCATIONAL PRIORITY	78
ZONE	1
CITY LATITUDE	38.9166
CITY LONGITUDE	77.0499
NUMBER OF OPERATING STATIONS[3]	10
NUMBER OF STATIONS ASSIGNED, NOT OPERATING	1

The Location and State provide identification for the city which is being used to designate a somewhat broader geographical area. Although the city name is used throughout, it is important to realize that this does not mean that the station transmitter need be located within the political limits of the city. In some cases, the names of two or more cities have been compounded to represent a general location.

The State-City Number and the Serial Number are provided for the use of the computer in relating pieces of information to each other and to help the programmer to identify or locate information quickly.

The Urban Area and Urban Population were provided from the United States Census of Population, 1960, Report PC (1)-1a, Table 22. Again, the figures are calculated to include the general metropolitan area and population rather than the specific figures of a given city.

The Educational Priority is based on the number of educational institutions in a given area. To give the proper balance, two-year colleges were weighted so as not to be counted the same as a regular four-year institution.

---

[3] Includes pending shifts or changes.

The Zone refers to the zones into which the country has been divided for the purpose of identifying channel separation requirements. For V.H.F. stations, the co-channel separation requirements vary from 170 miles in Zone I, to 220 miles in Zone III. For U.H.F. stations, the co-channel separations vary from 155 miles in Zone I to 205 miles in Zone III. The adjacent channel separation for V.H.F. stations is 60 miles in all zones and for U.H.F. stations the separation requirement is 55 miles in all zones. In addition to these requirements there are additional limitations on all U.H.F. stations. For complete information, the reader should consult the F.C.C. Rules and Regulations, Volume III, September 1961, Section 3.609 (Zones), Section 3.610 (Separations), and Section 3.698 (Tables -- see Table IV).

The City Latitude and Longitude are co-ordinates based on the location of the main Post Office in each community.

The number of operating stations and the number of stations assigned, but not operating are listed only numerically. Additional information is provided as described in Table 1b and Table 1c.

Table 1b

INFORMATION FOR CHANNELS IN THE F.C.C. TABLE OF ASSIGNMENTS
WHICH ARE NOT YET OPERATING
SAMPLE: Washington, D.C.

Channel Offset (- 0 +)	+
Channel Number	50
Channel Type (AC or AE)	AC

The Channel Offset is a technical arrangement designed to minimize interference from stations on the same frequency. Channel Type designates whether the channel is reserved for educational purposes. Although the code C appears to stand for "commercial", it is important to note that there are no commercial reservations; its use here is merely to indicate that the channel has not been reserved for educational purposes.

Table 1c

INFORMATION FOR CHANNELS NOW OPERATING
SAMPLE: Washington, D.C.

Channel Number	Station Type	Power Output	Antenna Height	Latitude	Longitude	Channel Offset
20	PC	20	551	38.8916	77.1319	-
26	OE	23	598	38.8916	77.1319	+
26	CE	24	600	38.8916	77.1319	+
7	LC	25	500	38.9358	77.0924	-
14	CC	24	330	38.9547	77.0047	+
4	LC	20	570	38.9399	77.0816	+
4	PC	20	570	38.9399	77.0816	+
9	LC	25	530	38.9499	77.0791	0
5	LC	20	500	38.9247	77.0561	+
5	PC	20	770	38.9558	77.0824	+

With these facts, the primary input file provides all the basic data which may be required for any particular procedure. A significant factor here is that this information can be retrieved at any time for use in solving problems concerning a relatively small geographical area, or problems which must be considered on a national basis.

Another advantage consists of the ability of the computer easily to "unlearn" old information and "learn" new information in its place. As the allocation picture changes, it is possible, therefore, to modify or add information in the file so it can always be completely up to date.

Beyond this, the current structure of the file permits data about AM, FM, and other broadcast facilities to be included on the same basis that this information about V.H.F. and U.H.F. television channels is prepared and stored.

INTERCITY FILE

In any calculation of the type required for channel assignment, large quantities of initial computation are required. Speed and efficiency of this process areof fundamental importance, and although a computer is capable of performing calculations at an extremely rapid rate, it is still necessary that as much efficiency as possible is programed into the machine.

As an example, let us consider the problem of intercity distances. Any channel assignment can have a range of influence up to 205 miles. Considering the desirability of allowing a reasonable uncertainty for the exact location of any assigned channel, a maximum possible range of influence of 250 miles was established.

When a particular assignment is to be made, it is necessary to consider the television assignment situation within the 250 mile range of influence. Thus, separation distances from the city of interest to every city and operating channel within 250 miles must be determined. One way to accomplish this within the computer is actually to compute the separation distance between the city of interest and each of the other 1416 locations and the currently operating channels. Once the separation distances have been determined, the distances less than 250 miles may be retained and stored. If this process must be repeated every time a single channel is assigned, one complete assignment for the United States, i.e.. approximately three thousand channels would require 3000 times 1417 distance computations. Hence, each over-all assignment has built into it, a requirement for over 4,251,000 distance calculations. The computer's ability to store and retrieve information rapidly means that the intercity distances need be computed only once.

The intercity file has been established by the computer from the primary input file and lists the name of each of the 1417 locations. Each location is called a heading and under each heading this intercity file lists the name of every other location (using the basic 1417) within 250 miles. Every operating channel within 250 miles is also listed and along with these data, the exact separation distance between the entry and the heading is also given.

Table 2 shows a typical intercity file entry using as a heading, Washington, D.C.

Table 2

SAMPLE INTERCITY FILE DATA
EXAMPLE: Washington, D.C.

City	Operating Channel	Distance from Washington, D.C.
Greenwich, Connecticut	-	232
" "	55	238
Stamford-Norwalk, Connecticut	-	240
Dover, Delaware	-	82
Milford, Delaware	-	87
Millsboro, Delaware	-	96
Wilmington, Delaware	-	98
Annapolis, Maryland	-	29
Baltimore, "	-	34
" "	24	35
" "	24	34
" "	72	38
Cambridge, "	-	55
Cumberland, "	-	104
Frederick "	-	41
Hagerstown, "	-	62
Lower Marlboro, Maryland	-	27
Olney, "	-	16
Westminster, "	-	48
Salisbury, "	-	86
" "	16	87
" "	16	87
Andover, New Jersey	-	188
Asbury Park, "	-	187
" "	58	186
Atlantic City, New Jersey	-	142
" "	46	143
Bridgeton, "	-	101
Camden, "	-	121
Freehold, "	-	176
Hammonton, "	-	131
Montclair, "	-	199
Newark, "	-	198
New Brunswick, "	-	174
" "	19	180
Paterson "	-	206
" "	37	206
" "	37	209

Table 2 (cont'd)

SAMPLE INTERCITY FILE DATA
EXAMPLE: Washington, D.C.

City	Operating Channel	Distance from Washington, D.C.
Paterson-Upper Montclair, New Jersey	-	204
" "	37	206
" "	37	209
Trenton, "	-	153
Wildwood, "	-	117
Binghamton, New York	-	228
" "	34	224
" "	40	229
" "	40	229
" "	46	229
Corning-Elmira, New York	-	221
" "	18	220
Elmira, "	-	219
" "	18	220
Hempstead, "	-	220
Hornell "	-	239
Ithaca, "	-	245
" "	14	240
Jamestown, "	-	249
Middletown, "	-	222
New York, "	-	203
" "	31	204
" "	25	203
Olean, "	-	230
Patchogue, "	-	249
Ahoskie, North Carolina	-	181
Burlington, "	-	235
Chapel Hill, "	-	234
Durham, "	-	225
Elizabeth City, "	-	187
Enfield, "	-	190
Goldsboro, "	-	241
Greensboro, "	-	246
Greenville, "	-	230
Halifax, "	-	167
Henderson, "	-	194
Raleigh, "	-	234
" "	28	216
Roanoke Rapids, "	-	174
Rocky Mount, "	-	209
Sladesville, "	-	243
Washington, "	-	232
Wilson, "	-	225
Marietta, Ohio	-	239

Table 2 (cont'd)

SAMPLE INTERCITY FILE DATA
EXAMPLE: Washington, D.C.

City	Operating Channel	Distance from Washington, D.C.
Youngstown, Ohio	-	243
" "	21	242
" "	27	241
" "	27	241
" "	33	241
" "	45	241
Allentown, Pennsylvania	-	142
" "	67	142
Altoona, "	-	133
Bethlehem, "	-	148
" "	51	144
Bloomsberg-Berwick, Pennsylvania	-	150
Bradford, "	-	227
Burlington-Towanda, "	-	203
Butler, "	-	202
Chambersburg, "	-	78
Dubois, "	-	178
Easton, "	-	158
" "	57	151
Emporium, "	-	186
Harrisburg, "	-	93
" "	21	99
" "	71	96
" "	27	96
" "	27	96
" "	27	96
Jenkintown, "	-	130
" "	29	130
Johnstown, "	-	139
" "	19	138
" "	56	138
Lancaster, "	-	86
Lancaster-York, "	-	81
" "	49	77
" "	43	73
Lebanon, "	-	103
" "	15	97
Lewistown, "	-	119
Lock Haven, "	-	153
" "	32	155
Oil City, "	-	223
Philadelphia, "	-	125
Philadelphia, "	23	123
" "	35	123
" "	17	128

Table 2 (cont'd)

SAMPLE INTERCITY FILE DATA
EXAMPLE: Washington, D.C.

City	Operating Channel	Distance from Washington, D.C.
Pittsburg, Pennsylvania	-	187
Pittsburg, "	53	190
" "	22	191
" "	16	187
Pottsville, "	-	131
Reading, "	-	116
" "	61	119
Scranton, "	-	185
Scranton, "	22	186
Scranton, "	16	168
Scranton, "	44	187
Shamokin, "	-	131
Sharon, "	-	242
Shinglehouse, "	-	218
State College, "	-	138
Sunbury, "	-	135
Uniontown, "	-	158
Warren, "	-	228
Washington, "	-	195
Wilkes-Barre, "	-	171
" "	28	170
Williamsport, "	-	158
York, "	-	74
" "	49	77
" "	43	73
Blacksburg, Virginia	-	217
Charlottesville, Virginia	-	98
Covington, Virgina	-	176
Danville, "	-	204
" "	24	197
Emporia, "	-	156
Farmville, "	-	135
Frederisckburg, Virginia	-	52
Front Royal, "	-	61
Harrisonburg, "	-	103
Lexington, "	-	152
Lynchburg, "	-	154
Martinsville, "	-	218
Norfolk-Portsmouth, "		
Newport News,	-	147
" "	15	135
" "	33	137
" "	27	148
Petersburg, "	-	119
Pulaski, "	-	241
Richmond, "	-	95

Table 2 (cont'd)

SAMPLE INTERCITY FILE DATA
EXAMPLE: Washington, D.C.

City	Operating Channel	Distance from Washington, D.C.
Roanoke, Virginia	-	194
South Boston, Virginia	-	183
Staunton, "	-	121
Waynesboro, "	-	112
Williamsburg, "	-	116
Winchester, "	-	64
Beckley, West Virginia	-	244
Bluefield, " "	-	246
Clarksburg, " "	-	179
Elkins, " "	-	150
Fairmont, " "	-	172
Hinton, " "	-	226
Martinsburg, " "	-	61
Morgantown, " "	-	163
Parkersburg, " "	-	242
" " "	15	244
Romney, " "	-	96
Weston, " "	-	185
Wheeling-Steubenville, West Va., Ohio	-	215

When we want to make an assignment in any specific locality, we can consult the intercity file and find out immediately the cities and operating channels which are in the range of influence. This is a faster process than computing intercity distances each time an assignment is made and much faster than using manual calculations with overlays to blank out the cities beyond the range of influence.

It is the intercity file which also enables the computer, whenever a requested channel assignment is not available, to print out the reasons why an assignment was not feasible, giving specific channels at localities, and distances where interference would occur. Such information would make possible a subjective judgment regarding an assignment in a fringe area.

MAKING THE ASSIGNMENT

Before the actual assignment process can begin there are some assumptions and priorities which must be established.

First, it was decided to use the operating stations and the current F.C.C. Table of Assignments as initial constraints. The basic purpose of this project has been to extend the F.C.C. Table and not to replace it. To start from any other basis would cause considerable difficulty in applying a new table of assignments and could very well render it entirely useless.

Second, it was agreed that the location of operating stations must remain fixed and that the new assignment of channels must be made flexible enough to permit location of the antenna site anywhere within a 5-mile radius of the central co-ordinates. On this point, it is interesting to note that computer technology makes it feasible to vary this uncertainty factor in whatever direction and to whatever degree is desirable by a simple change in the programmer's instructions. Thus, if it were necessary to determine what effect a different flexibility factor would have on a nationwide assignment pattern, this could be calculated in a relatively short period of time.

Third, an initial priority was established requesting a specific number of channels for different population categories. Centers of high population were listed for a maximum of 9 channels and locations within the lowest population group were listed for at least one channel. The 1417 locations were divided into population groups and the number of channels requested in each category are reported in Table 3.

Table 3

REQUESTED CHANNEL PRIORITY ON THE BASIS OF POPULATION CATEGORY

Population Category	No. of Channels	No. of Locations	Total No. of Desired Channels
Over 1 million	9	16	144
500 thousand to 1 million	8	22	176
250 thousand to 500 thousand	7	31	217
100 thousand to 250 thousand	4	90	360
50 thousand to 100 thousand	3	68	204
25 thousand to 50 thousand	2	182	364
less than 25 thousand	1	1008	1008
		1417	2473

The preliminary calculations which created the primary input file and intercity file were kept general enough so that a wide variety of assignment methods might be employed. The two specific procedures which have been used to date may be described as "channel by channel" assignment and "location by location" assignment.

The channel by channel procedure is outlined in the flow diagram shown in Figure 1.

For the channel by channel assignment, a particular U.H.F. channel and a starting location are chosen. The computer then assigns that particular channel to the initial location, if possible. Then, the computer chooses the next closest location of interest and repeats the assignment process until alllocations of interst have been exhausted. The computer then moves to the next channel to be assigned and the desired starting location by reading a punched card. This process is continued until all the channels are exhausted.

The channel by channel assignment procedure saturates the country with a particular channel before looking at any other channel.

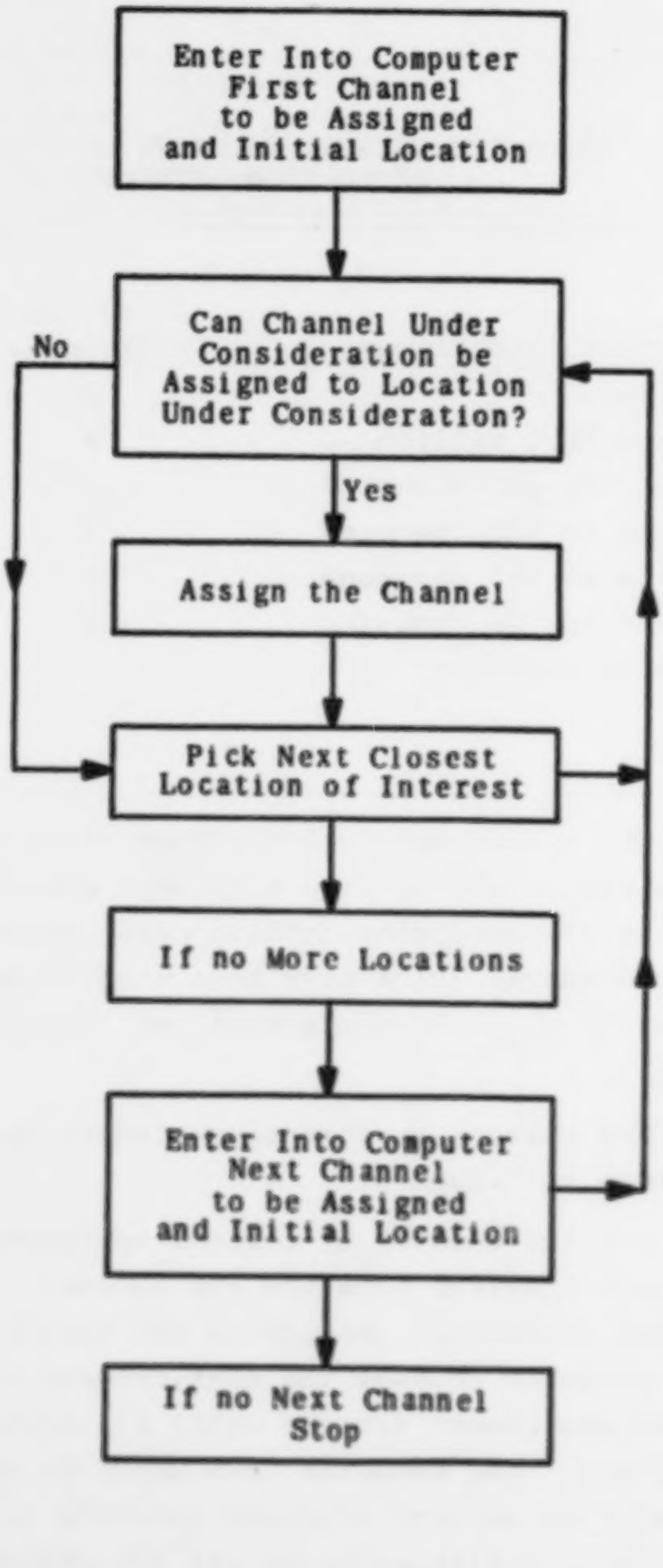
Enter Into Computer
First Channel
to be Assigned
and Initial Location
Can Channel Under
Consideration be
Assigned to Location
Under Consideration?
No
Yes
Assign the Channel
Pick Next Closest
Location of Interest
If no More Locations
Enter Into Computer
Next Channel
to be Assigned
and Initial Location
If no Next Channel
Stop

Figure 1. "Channel by Channel" Assignment Flow Diagram.

That is, every valid assignment for that channel is made before the possibility of assigning any other channel is explored. The order in which the channels are chosen is completely under the control of the analyst. It is possible to explore the relative merits of various channel assignment sequences beginning with different channels. In addition, the intitial city considered for each channel assignment is under the control of the analyst, however, if the analyst chooses not to specify an initial city, the computer will choose the beginning city by alphabetical preference.

Channel by channel assignment on the computer requires only a few minutes per channel.

For the city by city assignment an initial assignment sequence is established and stored in the computer. The assignment sequence consists of a list of locations in the order they are to be considered and the number of channels to be assigned to each particular location when it is considered. A location may appear more than once in the assignment sequence. For example, it may be desirable eventually to place ten U.H.F. channels in New York City, but only five channels have a high priority for New York. This limitation is established to permit other priorities to operate. For example, it may be more important to get at least signle channel coverage in all locations of interest, than to get the maximum number of channels requested in only a few locations.

Each assignment made by the computer will consider any initial channel assignment pattern. It may be desirable to consider only the operating U.H.F channels as initial constraints in some cases, while in others, the present F.C.C. Assignment Table may be considered as an initial constraint.

Whenever the assignment sequence asks for a particular number of channels, the computer considers those channels already existing in arriving at the total number of assignments it makes. For example, if the location of interest is an area with a population between 250 and 500 thousand, the priority schedule calls for 7 channels. If there are already 3 channels assigned, the computer will not assign more than four additional channels.

The assignment sequence can be prepared manually, but is almost always done by the computer according to a set of priorities established by the analyst. It was the computer, for example, which prepared a sequence list from the information contained in Table 3.

The city by city assignment considers each location in the assignment sequence in turn. It computes all possible assignments in each city and makes as many assignments to that city as possible, up to the number requested by the sequence list. Assignment by this method requires approximately four seconds per location, or slightly less than 1 hour and 40 minutes for 1417 entries.

There is an almost infinite variety of possible channel arrangements. The basic usefulness of the computer is as an extremely versatile and high speed tool for exploring the possibilities of "optimum" channel assignment. The word "optimum" is used here to mean the greatest number of channels in the 1417 locations which have been specified.

Not only can the computer assign channels under a wide variety of circumstances, and in a wide variety of ways, but it can analyze the reasons why assignment is not possible in any given situation.

Table 4 is a sample of the type of information the computer presents when it is not able to make an assignment. The required separation listed is the separation established by the F.C.C. in its Rules and Regulations, plus an allowed uncertainty in station location.

Table 4

A SAMPLE PRINT OUT OF REASONS WHY CHANNEL ASSIGNMENT IS NOT POSSIBLE

SAMPLE: Washington, D.C.

Desired Channel	Interfering Channel	Interfering City	Separation	
			Required	Actual
14	14*	Washington,D,C.	160	0
15	14*	" "	60	0
16	14*	" "	25	0
17	14*	" "	25	0
18	14*	" "	25	0
19	14*	" "	25	0
20	20*	" "	160	0
21	14*	" "	65	0
22	14*	" "	25	0
23	20*	" "	25	0
24	20*	" "	25	0
25	20*	" "	25	0
26	26*	" "	160	0
27	20*	" "	65	0
28	14*	" "	65	0
29	14*	" "	80	0
30	26*	" "	25	0
31	26*	" "	25	0
32	47	Chambersburg, Pa.	85	78
32	32*	Lock Haven, Pa.	160	155
32	32	Fredericksburg, Va.	165	52
33	26*	Washington, D.C.	65	0
34	20*	" "	65	0
35	20*	" "	85	0
36	37	Westminster, Md.	65	48
36	36	Winchester, Va.	165	64
37	44	Cambridge, Md.	70	55
37	42	Lower Marlboro, Md.	30	27
37	37	Westminster, Md.	165	48
37	36	Winchester, Va.	65	64
38	24*	Baltimore, Md.	65	35
38	24*	" "	65	34
38	42	Lower Marlboro, Md.	30	27
38	53	Olney, Md.	85	16
38	37	Westminster, Md.	65	48
38	38	Sunbury, Pa.	165	135
38	45	Front Royal, Va.	70	61
38	24	Martinsburg, West Va.	70	61
39	24*	Baltimore, Md.	80	35
39	24*	" "	80	34
39	42	Lower Marlboro, Md.	30	27
39	53	Olney, Md.	70	16
39	32	Fredericksburg, Va.	70	52

Table 4 (cont'd)

A SAMPLE PRINT OUT OF REASONS WHY CHANNEL ASSIGNMENT IS NOT POSSIBLE
SAMPLE: Washington, D.C.

Desired Channel	Interfering Channel	Interfering City	Separation Required	Separation Actual
39	24	Martinsburg, West Va.	85	61
40	26*	Washington, D.C.	65	0
41	26*	" "	80	0
42	42	Lower Marlboro, Md.	165	27
43	44	Cambridge, Md.	65	55
43	42	Lower Marlboro, Md.	65	27
43	43*	Lancaster-York, Pa.	160	73
43	43	Uniontown, Pa.	165	158
43	43*	York, Pa.	160	73
43	43	Petersburg, Va.	165	119
43	36	Winchester, Va.	70	64
44	44	Cambridge, Md.	165	55
44	42	Lower Marlboro, Md.	30	27
44	37	Westminster, Md.	70	48
44	45	Front Royal, Va.	65	61
45	44	Cambridge, Md.	65	55
45	42	Lower Marlboro, Md.	30	27
45	53	Olney, Md.	30	16
45	45	Front Royal, Va.	165	61
46	42	Lower Marlboro, Md.	30	27
46	53	Olney, Md.	70	16
46	46*	Atlantic City, N.J.	160	143
46	32	Fredericksburg, Va.	70	52
46	45	Front Royal, Va.	65	61
47	62	Annapolis, Md.	85	29
47	42	Lower Marlboro, Md.	30	27
47	47	Chambersburg, Pa.	165	78
47	32	Fredericksburg, Va.	85	52
48	62	Annapolis, Md.	70	29
48	53	Olney, Md.	30	16
49	42	Lower Marlboro, Md.	70	27
49	53	Olney, Md.	30	16
49	49*	Lancaster-York, Pa.	160	77
49	49*	York, Pa.	160	77
49	49	Petersburg, Va.	165	119
50	42	Lower Marlboro, Md.	30	27
50	53	Olney, Md.	30	16
50	50	Charlottesville, Va.	165	98
50	36	Winchester, Va.	70	64
51	44	Cambridge, Md.	70	55
51	66	Frederick, Md.	85	41
51	53	Olney, Md.	30	16
51	37	Westminster, Md.	70	48
51	51*	Bethlehem, Pa.	160	144

Table 4 (cont'd)

A SAMPLE PRINT OUT OF REASONS WHY CHANNEL ASSIGNMENT IS NOT POSSIBLE

SAMPLE: Washington, D.C.

Desired Channel	Interfering Channel	Interfering City	Separation Required	Actual
51	36	Winchester, Va.	85	64
52	66	Frederick, Md.	70	41
52	53	Olney, Md.	65	16
52	37	Westminster, Md.	85	48
52	52	Atlantic City, N.J.	165	142
52	52	Altoona, Pa.	165	133
52	45	Front Royal, Va.	70	61
53	53	Olney, Md.	165	16
54	62	Annapolis, Md.	30	29
54	53	Olney, Md.	65	16
55	62	Annapolis, Md.	70	29
55	53	Olney, Md.	30	16
55	55	Lewistown, Pa.	165	119
55	55	Norfolk-Newport News Portsmouth, Va.	165	147
56	42	Lower Marlboro, Md.	70	27
56	53	Olney, Md.	30	16
56	56	Bridgeton, N.J.	165	101
56	56*	Johnstown, Pa.	160	138
57	62	Annapolis, Md.	30	29
57	72*	Baltimore, Md.	80	38
57	42	Lower Marlboro, Md.	85	27
57	53	Olney, Md.	30	16
57	57*	Easton, Pa.	160	151
58	62	Annapolis, Md.	30	29
58	72*	Baltimore, Md.	65	38
58	44	Cambridge, Md.	70	55
58	53	Olney, Md.	30	16
58	43*	Lancaster-York, Pa.	80	73
58	43*	York, Pa.	80	73
59	74	Dover, Del.	85	82
59	62	Annapolis, Md.	30	29
59	44	Cambridge, Md.	85	55
59	66	Frederick, Md.	70	41
59	45	Front Royal, Va.	70	61
59	59	Lynchburg, Va.	75	154
60	62	Annapolis, Md.	30	29
60	75	Hagerstown, Md.	85	62
60	53	Olney, Md.	70	16
60	45	Front Royal, Va.	85	119
60	60	Richmond, Va.	165	147
61	62	Annapolis, Md.	65	29
61	75	Hagerstown, Md.	70	62

Table 4 (cont'd)

A SAMPLE PRINT OUT OF REASONS WHY CHANNEL ASSIGNMENT IS NOT POSSIBLE

SAMPLE: Washington, D.C.

Desired Channel	Interfering Channel	Interfering City	Separation	
			Require	Actual
61	53	Olney, Md.	30	16
61	61*	Reading, Pa.	160	119
61	61	Norfolk-Newport News Portsmouth, Va.	165	147
62	62	Annapolis, Md.	165	29
62	47	Chambersburg, Pa.	85	78
63	78	Washington, D.C.	85	0
64	78	" "	70	0
65	62	Annapolis, Md.	30	29
65	72*	Baltimore, Md.	65	38
65	66	Frederick, Md.	65	41
66	62	Annapolis, Md.	30	29
66	66	Frederick, Md.	165	41
67	62	Annapolis, Md.	30	29
67	66	Frederick, Md.	65	41
67	53	Olney, Md.	70	16
67	67*	Allentown, Pa.	160	142
68	75	Hagerstown, Md.	70	62
68	53	Olney, Md.	85	16
68	68	Altoona, Pa.	165	133
69	62	Annapolis, Md.	70	29
69	69	Richmond, Va.	165	95
70	78	Washington, D.C.	30	0
71	78	" "	70	0
72	72*	Baltimore, Md.	160	38
73	78	Washington, D.C.	30	0
74	78	" "	30	0
75	78	" "	30	0
76	78	" "	30	0
77	78	" "	65	0
78	78	" "	165	0
79	78	" "	65	0
80	78	" "	30	0
81	78	" "	30	0
82	78	" "	30	0
83	78	" "	30	0

* Operating channel (includes pending shifts or changes).

If the interfering channel is operating, then only the attempted assignment is uncertain and only 5 miles is added to the required separation distance. If, on the other hand, the interfering channel is not operating, then both it and the attempted assignment can have an uncertainty of 5 miles and a total of 10 miles must be added.

Table 4 lists every reason why a particular channel cannot be assigned, except in the case where the interfering channel is in the city of interest. Although it is possible to print out all reasons in every case, it was felt that an existing assignment in the city of interest needed no further explanation.

ANALYSIS OF RESULTS

Several channel assignment experiments have been performed, using the methods described in the preceding section. These experiments have culminated in a number of significant results.

The primary result is the nationwide assignment of U.H.F. television channels which is presented in the proposed Assignment Table at the end of this report. The Table was constructed by initially assuming the present F.C.C. Table of Assignments, which includes approximately 1500 U.H.F. channel assignments. Channels were added according to the needs described in Table 3.

Table 3 requires the assignment of a total of 2473 channels, but only 2051 assignments were possible within the limitations imposed by a priority system that is based on the minimum assignment pattern indicated in Table 3.

In this initial assignment only 16 desired locations were without channels, and Table 5 summarizes the reasons why channel assignments were not possible in these locations. To conserve space, only the less constraining reasons are tabulated. Because there is a total 10-mile uncertainty in each assignment, it is clear from the data that many of the 16 locations could be provided with channels by judicious placement of the transmitting antenna. Further, Table 5 shows that channels may be provided in these void locations by trading channels with other cities which have more than on assignment.

Table 5

REASONS WHY NO ASSIGNMENT IS POSSIBLE IN 16 CITIES WHICH ARE VOID OF AN ASSIGNMENT

Guntersville, Ala.

Attempted Assignment	Interfering Channel	Interfering City	Separation Required	Separation Actual
15	15	Florence, Ala.	180	86
21	21	" "	185	83
72	72	Scottsboro,"	185	27
82	82	Drakestown, Ga.	185	78

Abington, Conn.

Attempted Assignment	Interfering Channel	Interfering City	Separation Required	Separation Actual
-	-	-	-	-

Litchfield, Conn.

Attempted Assignment	Interfering Channel	Interfering City	Separation Required	Separation Actual
30	30	New Britain, Conn.	160	19

Wilmington, Del.

Attempted Assignment	Interfering Channel	Interfering City	Separation Required	Separation Actual
19	19	New Brunswick, N.J.	160	82
23	23	Philadelphia, Pa.	160	25
45	52	Atlantic City, N.J.	70	63

Greensberg, Ind.

Attempted Assignment	Interfering Channel	Interfering City	Separation Required	Separation Actual
20	20	Indianapolis, Ind.	165	47
71	71	Muncie, Ind.	165	59
77	77	Angola, Ind.	165	162

Table 5 (cont'd)

REASONS WHY NO ASSIGNMENT IS POSSIBLE IN 16 CITIES WHICH ARE VOID OF AN ASSIGNMENT

Hartford City, Ind.

Attempted Assignment	Interfering Channel	Interfering City	Separation Required	Separation Actual
61	61	Anderson, Ind.	165	26
71	71	Muncie, Ind.	165	20
77	77	Angola, Ind.	165	83

Salem, Ind.

Attempted Assignment	Interfering Channel	Interfering City	Separation Required	Separation Actual
32	32	Louisville, Ky.	160	31
60	68	Bedford, Ind.	30	26
62	62	Owensboro, Ky.	160	80
68	68	Bedford, Ind.	165	26
69	68	Bedford, Ind.	65	26
78	78	Tell City, Ind.	165	57

Covington, La.

Attempted Assignment	Interfering Channel	Interfering City	Separation Required	Separation Actual
69	69	Bogalusa, La.	215	26
78	78	Bogalusa, La.	215	26

Westminster, Md.

Attempted Assignment	Interfering Channel	Interfering City	Separation Required	Separation Actual
81	66	Baltimore, Md.	85	29

Williamstown, Mass

Attempted Assignment	Interfering Channel	Interfering City	Separation Required	Separation Actual
58	58	Greenfield, Mass.	165	30

Table 5 (cont'd)

REASONS WHY NO ASSIGNMENT IS POSSIBLE IN 16 CITIES WHICH ARE VOID OF AN ASSIGNMENT

Newark, N.J.

Attempted Assignment	Interfering Channel	Interfering City	Separation Required	Separation Actual
25	25	New York, N.Y.	160	8
31	31	" "	160	8
47	47	New Brunswick, N.J.	165	25

Greensboro-Highpoint, N.C.

Attempted Assignment	Interfering Channel	Interfering City	Separation Required	Separation Actual
76	76	Lynchburg, Va.	185	104
81	80	Salisbury, N.C.	65	41
82	68	Danville, Va.	70	48

Hillsboro, Ohio

Attempted Assignment	Interfering Channel	Interfering City	Separation Required	Separation Actual
24	24	Maysville, Ky.	165	38
32	32	Louisville, Ky.	160	134
46	46	Lexington, Ky.	165	91
48	48	Cincinnati, Ohio	160	46
56	56	Chillicothe, Ohio	165	38
65	65	Hamilton-Middletown, Ohio	165	49
76	76	Springfield, Ohio	165	52
78	78	Ashland, Ky.	165	73

Bloomsberg-Berwick, Pa.

Attempted Assignment	Interfering Channel	Interfering City	Separation Required	Separation Actual
81	67	Allentown, Pa.	65	57

Table 5 (cont'd)

REASONS WHY NO ASSIGNMENT IS POSSIBLE IN 16 CITIES WHICH ARE VOID OF AN ASSIGNMENT

Pottsville, Pa.

Attempted Assignment	Interfering Channel	Interfering City	Separation	
			Required	Actual
83	83	Poughkeepsie, N.Y.	165	136

Monroe, Wis.

Attempted Assignment	Interfering Channel	Interfering City	Separation	
			Required	Actual
17	17	Portage, Wis.	165	68
23	23	Freeport, Ill.	165	19
45	45	Rockford, Ill.	165	34

Next, two channels were placed wherever possible in those locations which had only one channel. This step brought the total number of assignments to 2583.

At this point, the cities with populations above 250 thousand were nearly saturated with channels. In order to saturate the entire plan, assignments were made at the cities of interest with less than 250 thousand population. This final step brought the total number of assigned channels to 3298.

The 715 channels which were added by this final step represent near saturation although many different patterns of distribution for these channels are possible.

Within the experiments considered to date there appears to be no advantage gained by using only the operating stations as the initial assignment constraint. Further, there appears to be no particular advantage in channel by channel assignment over city by city assignment when the assignment location sequence is carefully chosen.

The best assignment location sequence appears to be that which satisfies first the needs of the locations in the lower population categories and then proceeds up the scale to higher population centers.

SUMMARY AND APPLICATIONS

The Table of Assignments of the Federal Communications Commission has been expanded by computer study to indicate the availability of nearly 3300 U.H.F. channels. As one possible assignment plan out of a number of other alternatives available, this is a large step forward toward providing facilities to meet the indicated minimum needs of educators for television channels.

The procedure for determining a permissible frequency assignment pattern in the television band has been improved through the years using graphic overlay and hand and eye interpretive methods. However, these processes are relatively lengthy and somewhat rigid in their application. Electronic methods to accomplish similar desired ends facilitate the exploration of various alternatives as discussed in this report. Additional exploration is still possible and undoubtedly further work will go forward around such concepts.[1] There may still be further refinements in the method of attack explored to date which would result in even greater efficiency of assignment.

Similar techniques are applicable to V.H.F., F.M., and even microwave assignment patterns. In this latter area, the needs of educators have been indicated and the need for some systemization of occupancy patterns in this field can be foreseen. With the recent issuance of a Notice of Proposed Rule Making looking toward possible authorization of such microwave facilities not only for broadcast use but for closed-circuit systems as well, substantial pre-planning should be advantageous.[2] Further, in its Report and Order in Docket No. 14712, issued December 10, 1962, relating to microwave proceedings in the 2110-2200 mc/s band, the Commission, in paragraph 10, set forth the possibility of 420 mc/s as being potentially available to the educators for microwave interconnection.[3]

---

[1] Skrivseth, Arnold G., U.H.F. Assignment Plan, Washington, D.C., Federal Communications Commission, UHF-TV Report 5.2.2; May 29, 1961.

[2] Amendment of Parts 4 and 11 of the Commission's Rules to permit the use of television broadcast auxiliary stations to transmit program material to closed-circuit educational television systems and the use of microwave facilities of closed-circuit educational television systems to transmit program material to non-commercial educational television broadcast stations. Docket No. 14894, RM-329, December 14, 1962.

Further, on December 14, 1962, the Commission issued Notice of Proposed Rule-Making to consider providing access by educational institutions to the 1850-1990 mc/s frequency band for non-broadcast extended range closed-circuit educational television purposes.[4]

Thus, an additional 140 mc/s, or a total of 560 mc/s should be given consideration for potential expansion in such areas. Here again, the multiple sites, directional bearings, radiation characteristics, and number of simultaneous channel operational demands dependent upon various routings and magnitude of needs could be systematized by electronic library facilities.

With respect to the present study, any television assignment cannot be rigid. It must be dynamic in that it can bend with changes in needs, the pattern of assigned channels as they are built and operated, and the improvement of technical standards.

When initially assigning channels it is necessary to have some uncertainty since one can never be sure where the operator will place his tower. Naturally, as these facilities are put on the air, their location is fixed and there is no longer any uncertainty factor involved. Then, and only then, does the possibility exist for more channels to be allocated.

In addition, as special needs arise it may be desirable to shift assignments or otherwise modify the initial pattern of assignments. It is also important to be able to analyze the impact of new techniques such as airborne, satellite channels, and the like. The

---

3. In the Matter of Amendment of Parts 2,6,7,9,10,11,16, and 21 of the Commission's Rules to Designate Portions of the 2110-2200 mc/s band. Docket No. 14712, December 10, 1962.

4. Amendment of Part 11, Subpart L, Section 11.554 of the Commission's Rules governing the Business Radio Service; to provide access to the 1850-1990 mc/s frequency band, by educational institutions for non-broadcast extended range, closed circuit educational television purposes. Docket No. 14896, RM-335, December 14, 1962.

possibility still exists for dropping in many channels outside the specific locations of interest in this study, to satisfy additional needs.

All of these questions can be answered rapidly with the basic information and procedures which have been developed and established through this work.

CONCLUSIONS AND RECOMMENDATIONS

The results of this study have demonstrated conclusively the efficiency and effectiveness of using computer methods in solving the many complex problems of frequency assignment. The proposed Table of Assignments that has been developed appears to be one of the best arrangements possible to provide an equitable service for all television broadcast needs. However, it should be remembered that the arrangement presented here is not the only pattern of assignments that can be devised by the computer.

Every time a station goes on the air at a precise location, there is a potential modification of the assignment pattern, because each new geographical relationship that occurs when the area of uncertainty is eliminated creates a potentially different pattern of distribution among the remaining channels. This means that, with the ability of the computer to consider all factors at all times, the Table of Assignments proposed in this report may be modified by the circumstances of specific assignments or waivers, or completely changed in whole or in part by the establishment of different priorities or the advent of new or additional data.

There is a reasonable possibility that some of the assignments made here that affect the Canadian and Mexican border areas may have to be modified or eliminated because the assignment data for the border countries were not included in this study. However, the indications are that this factor will not seriously affect the proposed service at the selected locations in the United States or materially reduce the available channels in this assignment.

Probably the most significant result of the study is that over twice the number of useable channels has been added to the F.C.C. Table of Assignments, that most of these channels have been placed where they are needed, either now or in the future, and that this has been accomplished without disturbing any of the presently active or near active stations, and adhering strictly to the established rules and standards of the F.C.C.

Because of this, it is recommended that the F.C.C. use the Table of Assignments derived from the computer as a basis for a re-

allocation proceeding and for expansion of the present Table to meet the present and future needs of education and other television broadcast services.

It is further recommended that the F.C.C. make continuing use of the vast amount of recorded and stored information derived from this study to test any assignment rearrangement which might be contemplated in the future, and that some arrangements be made to up-date and expand the volumes of accrued data already "learned" by the computer.

PROPOSED TABLE OF ASSIGNMENTS

```
ANDALUSIA                ALA   OPERATING
  7  LAT 31-17 LON  86-27    ASSIGNED 29 81
ANNISTON                 ALA   OPERATING
  6  LAT 33-37 LON  85-49    ASSIGNED 70
AUBURN                   ALA   OPERATING
  7  LAT 32-34 LON  85-29    ASSIGNED 56
BESSEMER                 ALA   OPERATING
  6  LAT 33-23 LON  86-57    ASSIGNED 54
BIRMINGHAM               ALA   OPERATING   42
  2  LAT 33-29 LON  86-49    ASSIGNED 48
BREWTON                  ALA   OPERATING
  7  LAT 31- 5 LON  87- 3    ASSIGNED 23 70
CLANTON                  ALA   OPERATING
  7  LAT 32-49 LON  86-37    ASSIGNED 77
CULLMAN                  ALA   OPERATING
  7  LAT 34- 9 LON  86-49    ASSIGNED 60
DECATUR                  ALA   OPERATING   23
  6  LAT 34-34 LON  87- 0    ASSIGNED
DEMOPOLIS                ALA   OPERATING
  7  LAT 32-29 LON  87-49    ASSIGNED 18 83
DOTHAN                   ALA   OPERATING
  6  LAT 31-12 LON  85-22    ASSIGNED 19 65
DOZIER                   ALA   OPERATING
  7  LAT 31-32 LON  86-22    ASSIGNED 62
ENTERPRISE               ALA   OPERATING
  7  LAT 31-18 LON  85-51    ASSIGNED 40
EUFAULA                  ALA   OPERATING
  7  LAT 31-53 LON  85- 8    ASSIGNED 44
FAYETTE                  ALA   OPERATING
  7  LAT 33-39 LON  87-49    ASSIGNED 78
FLORENCE                 ALA   OPERATING   15
  6  LAT 34-46 LON  87-39    ASSIGNED 21
GADSDEN                  ALA   OPERATING
  5  LAT 34- 0 LON  86- 0    ASSIGNED 37
GREENVILLE               ALA   OPERATING
  7  LAT 31-48 LON  86-38    ASSIGNED 49
GUNTERSVILLE             ALA   OPERATING
  7  LAT 34-19 LON  86-17    ASSIGNED
HAMILTON                 ALA   OPERATING
  7  LAT 34- 8 LON  87-58    ASSIGNED 17 73
HUNTSVILLE               ALA   OPERATING   19 31
  5  LAT 34-43 LON  86-35    ASSIGNED 25 44
JASPER                   ALA   OPERATING
  7  LAT 33-49 LON  87-17    ASSIGNED 76
MOBILE                   ALA   OPERATING   42
  3  LAT 30-41 LON  88- 3    ASSIGNED 48 68 79
MONTGOMERY               ALA   OPERATING   26 32 20
  4  LAT 32-20 LON  86-17    ASSIGNED 67
MUNFORD                  ALA   OPERATING
  7  LAT 33-31 LON  85-56    ASSIGNED 24
MT CHEAHA STATE PARK     ALA   OPERATING
  7  LAT 33-29 LON  85-48    ASSIGNED 80
```

```
OPELIKA                  ALA   OPERATING
  7  LAT 32-37 LON  85-22    ASSIGNED 22
SCOTTSBORO               ALA   OPERATING
  7  LAT 34-39 LON  86- 2    ASSIGNED 72
SELMA                    ALA   OPERATING
  6  LAT 32-23 LON  87- 0    ASSIGNED 58 71
SHEFFIELD                ALA   OPERATING
  7  LAT 34-44 LON  87-41    ASSIGNED 47 79
SYLACAUGA                ALA   OPERATING
  7  LAT 33- 8 LON  86-13    ASSIGNED 75
TALLADEGA                ALA   OPERATING
  7  LAT 33-26 LON  86- 6    ASSIGNED 64
THOMASVILLE              ALA   OPERATING
  7  LAT 31-53 LON  87-42    ASSIGNED 27 53
TROY                     ALA   OPERATING
  7  LAT 31-46 LON  85-57    ASSIGNED 38
TUSCALOOSA               ALA   OPERATING   45
  5  LAT 33-10 LON  87-34    ASSIGNED 51 14
TUSCUMBIA                ALA   OPERATING   47
  7  LAT 34-42 LON  87-41    ASSIGNED
TUSKEGEE                 ALA   OPERATING
  7  LAT 32-24 LON  85-39    ASSIGNED 16
UNIVERSITY               ALA   OPERATING
  5  LAT 33-10 LON  87-34    ASSIGNED 74
AJO                      ARIZ  OPERATING
  7  LAT 32-21 LON 112-52    ASSIGNED 19 25 31 37 43 49 55 61 67 73
BISBEE                   ARIZ  OPERATING
  7  LAT 31-26 LON 109-54    ASSIGNED 54 19 63 72 81
CASA GRANDE              ARIZ  OPERATING
  7  LAT 32-50 LON 111-44    ASSIGNED 18 75
CLIFTON                  ARIZ  OPERATING
  7  LAT 33- 2 LON 109-18    ASSIGNED 25 43 71 77 83
COOLIDGE                 ARIZ  OPERATING
  7  LAT 32-58 LON 111-30    ASSIGNED 36
DOUGLAS                  ARIZ  OPERATING
  7  LAT 31-20 LON 109-31    ASSIGNED 35 41
FLOY                     ARIZ  OPERATING
  7  LAT 32-44 LON 111-32    ASSIGNED 24
FLAGSTAFF                ARIZ  OPERATING
  7  LAT 35-11 LON 111-38    ASSIGNED 19 35 44 55 61 67 73 79
GLOBE                    ARIZ  OPERATING
  7  LAT 33-22 LON 110-46    ASSIGNED 34 47 74
HOLBROOK                 ARIZ  OPERATING
  7  LAT 34-53 LON 110-10    ASSIGNED 14 20 32 41 50 59 68 78
KINGMAN                  ARIZ  OPERATING
  7  LAT 35-10 LON 114- 2    ASSIGNED 17 23 29 39 48 57 66 75
MESA                     ARIZ  OPERATING
  6  LAT 33-23 LON 111-50    ASSIGNED 26 45
MIAMA                    ARIZ  OPERATING
  7  LAT 33-22 LON 110-53    ASSIGNED 28 53
MORENCI                  ARIZ  OPERATING
  7  LAT 33- 4 LON 109-22    ASSIGNED 31 55
```

```
NOGALES                     ARIZ  OPERATING
  7  LAT 31-20 LON 110-55    ASSIGNED 16 32 44 22 76
PHOENIX                     ARIZ  OPERATING
  2  LAT 33-26 LON 112- 3    ASSIGNED 54 63 72 81
PRESCOTT                    ARIZ  OPERATING
  7  LAT 34-31 LON 112-28    ASSIGNED 15 27 71 77 83
SAFFORD                     ARIZ  OPERATING
  7  LAT 32-49 LON 109-40    ASSIGNED 21 61
TUCSON                      ARIZ  OPERATING
  4  LAT 32-13 LON 110-56    ASSIGNED 14 20 40 52 64 70 80
WILLIAMS                    ARIZ  OPERATING
  7  LAT 35-16 LON 112-10    ASSIGNED 25 31
WINSLOW                     ARIZ  OPERATING
  7  LAT 35- 0 LON 110-42    ASSIGNED 16 22
YUMA                        ARIZ  OPERATING
  7  LAT 32-40 LON 114-36    ASSIGNED 22 60 38 44 50 69 78
ARKADELPHIA                 ARK   OPERATING
  7  LAT 34- 6 LON  93- 2    ASSIGNED 34
BATESVILLE                  ARK   OPERATING
  7  LAT 35-45 LON  91-37    ASSIGNED 30 49
BENTON                      ARK   OPERATING
  7  LAT 34-34 LON  92-34    ASSIGNED 40
BLYTHEVILLE                 ARK   OPERATING
  7  LAT 35-54 LON  89-53    ASSIGNED 64 74
CAMDEN                      ARK   OPERATING
  7  LAT 33-34 LON  92-48    ASSIGNED 50 77
CLARKSVILLE-OZARK           ARK   OPERATING
  7  LAT 35-27 LON  93-37    ASSIGNED 44 61 74
CONWAY                      ARK   OPERATING
  7  LAT 35- 5 LON  92-25    ASSIGNED 62
EL DORADO                   ARK   OPERATING
  6  LAT 33-12 LON  92-37    ASSIGNED 26 83
FAYETTEVILLE                ARK   OPERATING
  7  LAT 36- 2 LON  94- 8    ASSIGNED 41 63
FORREST CITY                ARK   OPERATING
  7  LAT 35- 0 LON  90-45    ASSIGNED 22 31
FORT SMITH                  ARK   OPERATING
  5  LAT 35-22 LON  94-23    ASSIGNED 22 39 16
HARRISON                    ARK   OPERATING
  7  LAT 36-13 LON  93- 4    ASSIGNED 24 53 65
HELENA                      ARK   OPERATING
  7  LAT 34-31 LON  90-35    ASSIGNED 54 75
HOPE                        ARK   OPERATING
  7  LAT 33-38 LON  93-34    ASSIGNED 15 58
HOT SPRINGS                 ARK   OPERATING
  6  LAT 34-29 LON  93- 1    ASSIGNED 52 68
JONESBORO                   ARK   OPERATING
  7  LAT 35-49 LON  90-41    ASSIGNED 39 76
LITTLE ROCK                 ARK   OPERATING
  4  LAT 34-42 LON  92-15    ASSIGNED 23 17 73 79
MAGNOLIA                    ARK   OPERATING
  7  LAT 33-14 LON  93-13    ASSIGNED 28 80
```

```
MALVERN                 ARK   OPERATING
  7  LAT 34-22 LON  92-47    ASSIGNED 46
MONTICELLO              ARK   OPERATING
  7  LAT 33-35 LON  91-47    ASSIGNED 45
MORRILTON               ARK   OPERATING
  7  LAT 35- 8 LON  91-41    ASSIGNED 43 82
NEWPORT                 ARK   OPERATING
  7  LAT 35-34 LON  91-13    ASSIGNED 28 66
PARAGOULD               ARK   OPERATING
  7  LAT 36- 2 LON  90-28    ASSIGNED 58
PINE BLUFF              ARK   OPERATING
  6  LAT 34-12 LON  92- 0    ASSIGNED 36 56
RUSSELLVILLE            ARK   OPERATING
  7  LAT 35-15 LON  93- 7    ASSIGNED 19 71
SEARCY                  ARK   OPERATING
  7  LAT 35-13 LON  91-42    ASSIGNED 33
SPRINGDALE              ARK   OPERATING
  7  LAT 36-10 LON  94- 7    ASSIGNED 35
STUTTGART               ARK   OPERATING
  7  LAT 34-29 LON  91-32    ASSIGNED 14
TEXARKANA               ARK   OPERATING
  7  LAT 33-24 LON  94- 0    ASSIGNED 48 64
ALTURAS                 CALIF OPERATING
  7  LAT 41-28 LON 120-31    ASSIGNED 22 28 38 44 50 56 62 68 74 80
BAKERSFIELD             CALIF OPERATING   29 17
  4  LAT 35-22 LON 119- 0    ASSIGNED 51 39 67 77
BISHOP                  CALIF OPERATING
  7  LAT 37-20 LON 118-23    ASSIGNED 19 25 52 63 72 81
BLYTHE                  CALIF OPERATING
  7  LAT 33-35 LON 114-36    ASSIGNED 34 14 82
BRAWLEY                 CALIF OPERATING
  7  LAT 32-58 LON 115-30    ASSIGNED 16 32 42 72 81
CHICO                   CALIF OPERATING
  7  LAT 39-42 LON 121-50    ASSIGNED 23 39 71 77 83
COALINGA                CALIF OPERATING
  7  LAT 36- 8 LON 120-21    ASSIGNED 23 69
CORONA                  CALIF OPERATING   52
  7  LAT 33-52 LON 117-33    ASSIGNED 62
COTATI                  CALIF OPERATING
  7  LAT 38-17 LON 122-41    ASSIGNED 24
DELANO                  CALIF OPERATING
  7  LAT 35-45 LON 119-16    ASSIGNED 45 61
EL CENTRO               CALIF OPERATING
  7  LAT 32-47 LON 115-31    ASSIGNED 26 48
EUREKA                  CALIF OPERATING
  6  LAT 40-46 LON 124- 9    ASSIGNED 21 27 33 45 51 57 63 69 75 81
FRESNO                  CALIF OPERATING   53 30 47 24
  4  LAT 36-43 LON 119-47    ASSIGNED 18
HANFORD                 CALIF OPERATING   21
  7  LAT 36-18 LON 119-38    ASSIGNED 71
INDIO                   CALIF OPERATING
  7  LAT 33-42 LON 116-12    ASSIGNED 19 36 64 76
```

```
LOS ANGELES              CALIF OPERATING   22 34
  1  LAT 34- 3 LON 118-14    ASSIGNED 28
MADERA                   CALIF OPERATING
  7  LAT 36-55 LON 120- 2    ASSIGNED 59 75
MERCED                   CALIF OPERATING
  7  LAT 37-16 LON 120-29    ASSIGNED 66 34
MODESTO                  CALIF OPERATING
  6  LAT 37-37 LON 121- 0    ASSIGNED 17 58
NAPA                     CALIF OPERATING
  7  LAT 38-18 LON 122-18    ASSIGNED 62
OXNARD                   CALIF OPERATING
  6  LAT 34-11 LON 119-10    ASSIGNED 32 57 81
PALM SPRINGS             CALIF OPERATING
  7  LAT 33-48 LON 116-37    ASSIGNED 27 58
PETALUMA                 CALIF OPERATING
  7  LAT 38-13 LON 122-38    ASSIGNED 68
PITTSBURG                CALIF OPERATING
  7  LAT 38- 0 LON 121-53    ASSIGNED 16
PORT CHICAGO             CALIF OPERATING
  7  LAT 38- 2 LON 122- 0    ASSIGNED 70
PORTERVILLE              CALIF OPERATING
  7  LAT 36- 3 LON 119- 3    ASSIGNED 55 77 83
RED BLUFF                CALIF OPERATING
  7  LAT 40-10 LON 122-14    ASSIGNED 15 31 47 59 65
REDDING                  CALIF OPERATING
  7  LAT 40-34 LON 122-34    ASSIGNED 20 26 53 76 82
RIVERSIDE                CALIF OPERATING
  5  LAT 33-57 LON 117-21    ASSIGNED 40 46 56 74 80
SACRAMENTO               CALIF OPERATING   40
  3  LAT 38-34 LON 121-29    ASSIGNED 46 19 80
SALINAS-MONTEREY         CALIF OPERATING
  5  LAT 36-35 LON 121-29    ASSIGNED 35 65 76
SAN BERNARDINO           CALIF OPERATING   18 24
  5  LAT 34- 6 LON 117-17    ASSIGNED 30
SAN BUENAVENTURA         CALIF OPERATING
  6  LAT 34-16 LON 119-18    ASSIGNED 38 48
SAN DIEGO                CALIF OPERATING
  2  LAT 32-43 LON 117- 9    ASSIGNED 39 51 15 21 33 45 61 67
SANFRANCISCO-OAKLAND  CALIF OPERATING   44 26 20 32
  1  LAT 37-44 LON 122-26    ASSIGNED
SAN JOSE                 CALIF OPERATING
  2  LAT 37-19 LON 121-54    ASSIGNED 48 60 54
SAN LUIS OBISPO          CALIF OPERATING
  7  LAT 35-17 LON 120-39    ASSIGNED 14 25 50 63 74 80
SAN MATEO                CALIF OPERATING   14
  5  LAT 37-31 LON 122-18    ASSIGNED 72
SANTA BARBARA            CALIF OPERATING
  5  LAT 34-24 LON 119-40    ASSIGNED 20 26 60 70 79
SANTA CRUZ               CALIF OPERATING
  6  LAT 36-57 LON 122- 2    ASSIGNED 56 38 78
SANTA MARIA              CALIF OPERATING
  7  LAT 34-57 LON 120-28    ASSIGNED 44 31
```

```
SANTA PAULA               CALIF OPERATING
  7  LAT 34-21 LON 119- 3     ASSIGNED 16 68
SANTA ROSA                CALIF OPERATING
  6  LAT 38-25 LON 122-41     ASSIGNED 50 74
STOCKTON                  CALIF OPERATING
  4  LAT 37-55 LON 121-17     ASSIGNED 36 64 42 82
TULARE                    CALIF OPERATING   27
  7  LAT 36-11 LON 119-20     ASSIGNED
UKIAH                     CALIF OPERATING
  7  LAT 39- 7 LON 123-13     ASSIGNED 18 28 34 55 66 79
VISALIA                   CALIF OPERATING   43
  7  LAT 36-19 LON 119-17     ASSIGNED 49
WATSONVILLE               CALIF OPERATING
  7  LAT 36-54 LON 121-46     ASSIGNED 22
YREKA CITY                CALIF OPERATING
  7  LAT 41-42 LON 122-37     ASSIGNED 19 36 49 58 70
YUBA CITY                 CALIF OPERATING
  7  LAT 39- 7 LON 121-37     ASSIGNED 52 43
ALAMOSA                   COLO  OPERATING
  7  LAT 37-26 LON 105-50     ASSIGNED 19 32 41 54 63 73 79
BOULDER                   COLO  OPERATING
  6  LAT 40- 1 LON 105-17     ASSIGNED 22 48
CANON CITY                COLO  OPERATING
  7  LAT 38-26 LON 105-14     ASSIGNED 36 55
COLORADO SPRINGS          COLO  OPERATING
  4  LAT 38-48 LON 104-48     ASSIGNED 23 17 47 77 83
CRAIG                     COLO  OPERATING
  7  LAT 40-32 LON 107-32     ASSIGNED 19 29 42 51 61 67 77 83
CORTEZ                    COLO  OPERATING
  7  LAT 37-20 LON 108- 0     ASSIGNED 26 35 56 62 68 74
DELTA                     COLO  OPERATING
  7  LAT 38-43 LON 108- 4     ASSIGNED 24 34 53 59 65 71 81
DENVER                    COLO  OPERATING
  2  LAT 39-44 LON 105- 0     ASSIGNED 20 26 60 66 72 78
DURANGO                   COLO  OPERATING
  7  LAT 37-16 LON 107-50     ASSIGNED 15 44
FORT COLLINS              COLO  OPERATING
  6  LAT 40-34 LON 105- 5     ASSIGNED 44 68
FORT MORGAN               COLO  OPERATING
  7  LAT 40-12 LON 103-47     ASSIGNED 15 46 67 76
GRAND JUNCTION            COLO  OPERATING
  7  LAT 39- 2 LON 108-31     ASSIGNED 21 40 69 75
GREELEY                   COLO  OPERATING
  6  LAT 40-25 LON 104-42     ASSIGNED 50 56
GUNNISON                  COLO  OPERATING
  7  LAT 38-31 LON 106-56     ASSIGNED 16 37 76
LA JUNTA                  COLO  OPERATING
  7  LAT 37-57 LON 103-33     ASSIGNED 24 37 70
LAMAR                     COLO  OPERATING
  7  LAT 38- 3 LON 102-37     ASSIGNED 18 29 40 49 58 68 74 80
LEADVILLE                 COLO  OPERATING
  7  LAT 39-13 LON 106-18     ASSIGNED 14 27 49 58 80
```

```
LONGMONT                  COLO  OPERATING
  7  LAT 40- 9 LON 105- 7    ASSIGNED 32
LOVELAND                  COLO  OPERATING
  7  LAT 40-23 LON 105- 5    ASSIGNED 38
MONTROSE                  COLO  OPERATING
  7  LAT 38-27 LON 107-51    ASSIGNED 18 43
PUEBLO                    COLO  OPERATING
  4  LAT 38-14 LON 104-35    ASSIGNED 28 34 53 59 65 75 81
SALIDA                    COLO  OPERATING
  7  LAT 38-30 LON 106- 0    ASSIGNED 25 45 62
STERLING                  COLO  OPERATING
  7  LAT 40-36 LON 103-13    ASSIGNED 25 42 51 63
TRINIDAD                  COLO  OPERATING
  7  LAT 37- 9 LON 104-30    ASSIGNED 21 33 62
WALSENBURG                COLO  OPERATING
  7  LAT 37-36 LON 104-47    ASSIGNED 30 57
ABINGTON                  CONN  OPERATING
  7  LAT 41-50 LON  72- 0    ASSIGNED
BRIDGEPORT                CONN  OPERATING    71 43
  3  LAT 41-11 LON  73-11    ASSIGNED 49
GREENWICH                 CONN  OPERATING    55
  5  LAT 41- 0 LON  73-36    ASSIGNED
HARTFORD                  CONN  OPERATING    24 18
  3  LAT 41-44 LON  72-39    ASSIGNED
LITCHFIELD                CONN  OPERATING
  7  LAT 41-44 LON  73-11    ASSIGNED
MERIDEN                   CONN  OPERATING
  5  LAT 41-31 LON  72-47    ASSIGNED 65
NEW BRITAIN               CONN  OPERATING    30
  4  LAT 41-39 LON  72-47    ASSIGNED
NEW HAVEN                 CONN  OPERATING    59
  3  LAT 41-17 LON  72-57    ASSIGNED
NEW LONDON  -             CONN  OPERATING
  6  LAT 41-19 LON  72- 7    ASSIGNED 81
NORWICH                   CONN  OPERATING    63
  6  LAT 41-30 LON  72- 5    ASSIGNED 57
STAMFORD-NORWALK          CONN  OPERATING
  4  LAT 41- 4 LON  73-29    ASSIGNED 55
WATERBURY                 CONN  OPERATING    53 20
  4  LAT 41-33 LON  73- 1    ASSIGNED
DOVER                     DEL   OPERATING
  7  LAT 39- 8 LON  75-32    ASSIGNED 48
MILFORD                   DEL   OPERATING
  7  LAT 38-54 LON  75-25    ASSIGNED 76
MILLSBORO                 DEL   OPERATING
  7  LAT 38-36 LON  75-17    ASSIGNED 32
WILMINGTON                DEL   OPERATING
  3  LAT 39-43 LON  75-33    ASSIGNED
WASHINGTON                DC    OPERATING    20 26 14
  1  LAT 38-54 LON  77- 2    ASSIGNED 50
BELLE GLADE               FLA   OPERATING
  7  LAT 26-40 LON  80-39    ASSIGNED 27 77
```

```
BOCA RATON                  FLA   OPERATING
  7  LAT 26-20 LON  80- 4    ASSIGNED 69
BRADENTON                   FLA   OPERATING
  7  LAT 27-27 LON  82-34    ASSIGNED 54 28
CLEARWATER                  FLA   OPERATING
  6  LAT 27-56 LON  82-46    ASSIGNED 32 50
COCOA                       FLA   OPERATING
  7  LAT 28-19 LON  80-43    ASSIGNED 14 69
DAYTONA BEACH               FLA   OPERATING
  6  LAT 29-11 LON  81-11    ASSIGNED 33 70
DE LAND                     FLA   OPERATING
  7  LAT 29- 1 LON  81-17    ASSIGNED 44
FORT LAUDERDALE             FLA   OPERATING
  3  LAT 26- 7 LON  80- 8    ASSIGNED 39 55 61 67 73 79
FORT MYERS                  FLA   OPERATING
  7  LAT 26-36 LON  81-50    ASSIGNED 16 25 36 72 78
FORT PIERCE                 FLA   OPERATING
  6  LAT 27-25 LON  80-19    ASSIGNED 19 31 40 59
GAINESVILLE                 FLA   OPERATING
  6  LAT 29-37 LON  82-17    ASSIGNED 20 52 81
JACKSONVILLE                FLA   OPERATING
  3  LAT 30-19 LON  81-39    ASSIGNED 30 36 57 78
KEY WEST                    FLA   OPERATING
  6  LAT 24-32 LON  81-46    ASSIGNED 14 20 26 32 38 44 50 56 62 68
LAKE CITY                   FLA   OPERATING
  7  LAT 30- 9 LON  82-37    ASSIGNED 39 33 49
LAKELAND                    FLA   OPERATING
  6  LAT 28- 1 LON  81-57    ASSIGNED 22 58
LAKE WALES                  FLA   OPERATING
  7  LAT 27-54 LON  81-35    ASSIGNED 42
LARGO                       FLA   OPERATING
  7  LAT 27-55 LON  82-45    ASSIGNED 56
LEESBURG                    FLA   OPERATING
  7  LAT 28-48 LON  81-52    ASSIGNED 64 26
MADISON                     FLA   OPERATING
  7  LAT 30-26 LON  83-54    ASSIGNED 21 71
MARIANNA                    FLA   OPERATING
  7  LAT 30-45 LON  85-15    ASSIGNED 57 17
MELBOURNE                   FLA   OPERATING
  7  LAT 28- 2 LON  80-36    ASSIGNED 37 63
MIAMI                       FLA   OPERATING   23 17
  2  LAT 25-45 LON  80-11    ASSIGNED 33 49
NEW SMYRNA BEACH            FLA   OPERATING
  7  LAT 29- 1 LON  80-55    ASSIGNED 18
OCALA                       FLA   OPERATING
  7  LAT 29-10 LON  82- 9    ASSIGNED 46 15
ORLANDO                     FLA   OPERATING
  4  LAT 28-32 LON  81-21    ASSIGNED 66 47 24 75
PALATKA                     FLA   OPERATING
  7  LAT 29-37 LON  81-39    ASSIGNED 62 17 83
PANAMA CITY                 FLA   OPERATING
  6  LAT 30- 8 LON  85-38    ASSIGNED 36.30 63
```

```
PENSACOLA                 FLA   OPERATING   15
  4  LAT 30-24 LON  87-12    ASSIGNED 46 21 59 76
PERRINE                   FLA   OPERATING
  7  LAT 25-37 LON  80-21    ASSIGNED 43 71
QUINCY                    FLA   OPERATING
  7  LAT 30-34 LON  84-35    ASSIGNED 54 75
SAINT AUGUSTINE           FLA   OPERATING
  7  LAT 29-53 LON  81-19    ASSIGNED 25 73
SANFORD                   FLA   OPERATING
  7  LAT 28-45 LON  81-16    ASSIGNED 35
SARASOTA                  FLA   OPERATING
  6  LAT 27-19 LON  82-29    ASSIGNED 34 60 80
TALLAHASSEE               FLA   OPERATING
  6  LAT 30-25 LON  84-17    ASSIGNED 24 51
TAMPA-ST PETERSBURG       FLA   OPERATING   38
  3  LAT 27-51 LON  82-32    ASSIGNED 76 82
WEST PALM BEACH           FLA   OPERATING
  4  LAT 26-41 LON  80- 3    ASSIGNED 21 15 51 57 83
ALBANY                    GA    OPERATING
  5  LAT 31-34 LON  84-10    ASSIGNED 83 74
AMERICUS                  GA    OPERATING
  7  LAT 32- 3 LON  84-13    ASSIGNED 31
ASHBURN                   GA    OPERATING
  7  LAT 31-41 LON  83-40    ASSIGNED 23
ATHENS                    GA    OPERATING
  6  LAT 33-56 LON  83-24    ASSIGNED 60 76
ATLANTA                   GA    OPERATING   30 36
  2  LAT 33-44 LON  84-24    ASSIGNED
AUGUSTA                   GA    OPERATING
  4  LAT 33-27 LON  81-58    ASSIGNED 75
BAINBRIDGE                GA    OPERATING
  7  LAT 30-52 LON  84-33    ASSIGNED 35
BRUNSWICK                 GA    OPERATING
  7  LAT 31- 7 LON  81-28    ASSIGNED 28 34 40 60
CAIRO                     GA    OPERATING
  7  LAT 30-51 LON  84-13    ASSIGNED 45
CARROLLTON                GA    OPERATING
  7  LAT 33-33 LON  85- 3    ASSIGNED 33
CARTERSVILLE              GA    OPERATING
  7  LAT 34- 9 LON  84-47    ASSIGNED 63
CEDARTOWN                 GA    OPERATING
  7  LAT 34- 0 LON  85-14    ASSIGNED 53
COCHRAN                   GA    OPERATING
  7  LAT 32-22 LON  83-24    ASSIGNED 15
COLUMBUS                  GA    OPERATING   28
  4  LAT 32-28 LON  84-57    ASSIGNED 34 79
CORDELE                   GA    OPERATING
  7  LAT 31-56 LON  83-49    ASSIGNED 43
DALTON                    GA    OPERATING
  7  LAT 34-45 LON  84-58    ASSIGNED 25 18
DAWSON                    GA    OPERATING
  7  LAT 31-45 LON  84-27    ASSIGNED 25
```

```
DOUGLAS                     GA    OPERATING
  7  LAT 31-30 LON  82-52    ASSIGNED 32 77
DRAKETOWN                   GA    OPERATING
  7  LAT 33-48 LON  85- 4    ASSIGNED 82
DUBLIN                      GA    OPERATING
  7  LAT 32-31 LON  82-55    ASSIGNED 73
ELBERTON                    GA    OPERATING
  7  LAT 34- 5 LON  82-52    ASSIGNED 24 71
FITZGERALD                  GA    OPERATING
  7  LAT 31-41 LON  83-17    ASSIGNED 53
GAINESVILLE                 GA    OPERATING
  7  LAT 34-16 LON  83-47    ASSIGNED 52
GRIFFIN                     GA    OPERATING
  7  LAT 33-14 LON  84-16    ASSIGNED 39
LA GRANGE                   GA    OPERATING
  7  LAT 33- 1 LON  85- 1    ASSIGNED 50
MACON                       GA    OPERATING
  4  LAT 32-48 LON  83-38    ASSIGNED 47 41 69 78
MARIETTA                    GA    OPERATING
  6  LAT 33-56 LON  84-33    ASSIGNED 57
MILLEDGEVILLE               GA    OPERATING
  7  LAT 33- 4 LON  83-14    ASSIGNED 51
MOULTRIE                    GA    OPERATING
  7  LAT 31- 9 LON  83-47    ASSIGNED 48
NEWNAN                      GA    OPERATING
  7  LAT 33-21 LON  84-47    ASSIGNED 61
PELHAM                      GA    OPERATING
  7  LAT 31- 6 LON  84-10    ASSIGNED 14
ROME                        GA    OPERATING
  6  LAT 34-14 LON  85- 9    ASSIGNED 59
SAVANNAH                    GA    OPERATING
  4  LAT 32- 3 LON  81- 6    ASSIGNED 18 38 56 66 76 82
STATESBORO                  GA    OPERATING
  7  LAT 32-25 LON  81-47    ASSIGNED 22 46
SWAINSBORO                  GA    OPERATING
  7  LAT 32-35 LON  82-19    ASSIGNED 42 64
THOMASVILLE                 GA    OPERATING
  7  LAT 30-49 LON  83-58    ASSIGNED 27 80
TIFTON                      GA    OPERATING
  7  LAT 31-25 LON  83-31    ASSIGNED 72
TOCCOA                      GA    OPERATING
  7  LAT 34-34 LON  83-19    ASSIGNED 35
VALDOSTA                    GA    OPERATING
  6  LAT 30-49 LON  83-17    ASSIGNED 37 61
VIDALIA                     GA    OPERATING
  7  LAT 32-11 LON  82-15    ASSIGNED 26 55
WARMSPRINGS                 GA    OPERATING
  7  LAT 32-52 LON  84-41    ASSIGNED 66
WAYCROSS                    GA    OPERATING
  7  LAT 31-10 LON  82-22    ASSIGNED 16 58
WRENS                       GA    OPERATING
  7  LAT 33-12 LON  82-22    ASSIGNED 20
```

```
BLACKFOOT                 IDA   OPERATING
  7  LAT 43- 9 LON 112-19    ASSIGNED 33 22
BOISE                     IDA   OPERATING
  6  LAT 43-37 LON 116-11    ASSIGNED 44 50 78
BURLEY                    IDA   OPERATING
  7  LAT 42-30 LON 113-47    ASSIGNED 15 40 51 72 82
CALDWELL                  IDA   OPERATING
  7  LAT 43-39 LON 116-40    ASSIGNED 38 56
COEURDALENE               IDA   OPERATING
  7  LAT 47-40 LON 116-47    ASSIGNED 14 52 76
EMMETT                    IDA   OPERATING
  7  LAT 43-51 LON 116-29    ASSIGNED 26 62
FILERJEROMETWINFALLS      IDA   OPERATING
  6  LAT 42-36 LON 114-32    ASSIGNED 17 43 80
GRANGEVILLE               IDA   OPERATING
  7  LAT 45-55 LON 116- 8    ASSIGNED 16 42 51 69 75
GOODING                   IDA   OPERATING
  7  LAT 42-55 LON 114-43    ASSIGNED 23 53
IDAHO FALLS               IDA   OPERATING
  6  LAT 43-29 LON 112- 0    ASSIGNED 44 55
IDAHOFALLS-POCATELLO      IDA   OPERATING
  5  LAT 43- 9 LON 112-13    ASSIGNED 61 67 73 79
JEROME                    IDA   OPERATING
  7  LAT 42-42 LON 114-30    ASSIGNED 17 59
KELLOGG                   IDA   OPERATING
  7  LAT 47-32 LON 116- 7    ASSIGNED 36 54
LEWISTON                  IDA   OPERATING
  7  LAT 46-24 LON 117- 0    ASSIGNED 46 63
MOSCOW                    IDA   OPERATING
  7  LAT 46-43 LON 117- 0    ASSIGNED 15 72
NAMPA                     IDA   OPERATING
  7  LAT 43-34 LON 116-33    ASSIGNED 32 68
PAYETTE                   IDA   OPERATING
  7  LAT 44- 4 LON 116-55    ASSIGNED 14 73
POCATELLO                 IDA   OPERATING
  6  LAT 42-50 LON 112-26    ASSIGNED 39 50
PRESTON                   IDA   OPERATING
  7  LAT 42- 5 LON 111-52    ASSIGNED 41 68 74
REXBURG                   IDA   OPERATING
  7  LAT 43-48 LON 111-48    ASSIGNED 27 38
RUPERT                    IDA   OPERATING
  7  LAT 42-36 LON 113-40    ASSIGNED 21 63
SANDPOINT                 IDA   OPERATING
  7  LAT 48-15 LON 116-32    ASSIGNED 23 56
TWIN FALLS                IDA   OPERATING
  7  LAT 42-32 LON 114-28    ASSIGNED 34 69
WALLACE                   IDA   OPERATING
  7  LAT 47-27 LON 115-54    ASSIGNED 27 60 80
WEISER                    IDA   OPERATING
  7  LAT 44-14 LON 116-58    ASSIGNED 20 60
ALTON                     ILL   OPERATING
  6  LAT 38-53 LON  90- 8    ASSIGNED 48 82
```

```
AURORA                    ILL   OPERATING
  5  LAT 41-44 LON  88-18    ASSIGNED 75
BELLEVILLE                ILL   OPERATING
  6  LAT 38-30 LON  89-57    ASSIGNED 54 70
BENTON                    ILL   OPERATING
  7  LAT 38- 0 LON  88-54    ASSIGNED 71 80
BLOOMINGTON               ILL   OPERATING   15
  6  LAT 40-28 LON  88-58    ASSIGNED 71
CAIRO                     ILL   OPERATING
  7  LAT 37- 0 LON  89- 9    ASSIGNED 24
CARBONDALE                ILL   OPERATING
  7  LAT 37-43 LON  89-12    ASSIGNED 34 61
CENTRALIA                 ILL   OPERATING
  7  LAT 38-30 LON  89- 7    ASSIGNED 32 59
CHAMPAIGN-URBANA          ILL   OPERATING   33
  5  LAT 40- 6 LON  88-13    ASSIGNED 21 27
CHICAGO                   ILL   OPERATING   32 26
  1  LAT 41-49 LON  87-39    ASSIGNED 38 44 20
DANVILLE                  ILL   OPERATING   24
  6  LAT 40- 8 LON  87-36    ASSIGNED 76
DECATUR                   ILL   OPERATING   17
  5  LAT 39-50 LON  88-57    ASSIGNED 23 74
DE KALB                   ILL   OPERATING
  7  LAT 41-54 LON  88-42    ASSIGNED 67
DIXON                     ILL   OPERATING
  7  LAT 41-50 LON  89-28    ASSIGNED 47
EFFINGHAM                 ILL   OPERATING
  7  LAT 39- 4 LON  88-31    ASSIGNED 55 83
ELGIN                     ILL   OPERATING
  6  LAT 42- 1 LON  88-17    ASSIGNED 83
FREEPORT                  ILL   OPERATING
  6  LAT 42-17 LON  89-36    ASSIGNED 23
GALESBURG                 ILL   OPERATING
  6  LAT 40-55 LON  90-21    ASSIGNED 77
HARRISBURG                ILL   OPERATING
  7  LAT 37-44 LON  88-31    ASSIGNED 22
JACKSONVILLE              ILL   OPERATING
  7  LAT 39-43 LON  90-12    ASSIGNED 29 72
JOLIET                    ILL   OPERATING
  4  LAT 41-46 LON  88- 4    ASSIGNED 48
KANKAKEE                  ILL   OPERATING
  6  LAT 41- 5 LON  87-51    ASSIGNED 14 78
KEWANEE                   ILL   OPERATING
  7  LAT 41-14 LON  89-54    ASSIGNED 60
LA SALLE                  ILL   OPERATING   35
  7  LAT 41-17 LON  89- 4    ASSIGNED
LINCOLN                   ILL   OPERATING
  7  LAT 40- 8 LON  89-20    ASSIGNED 53
LITCHFIELD                ILL   OPERATING
  7  LAT 39- 8 LON  89-37    ASSIGNED 64
MACOMB                    ILL   OPERATING
  7  LAT 40-25 LON  90-38    ASSIGNED 61
```

```
MARION                      ILL    OPERATING
  7  LAT 37-43 LON  88-55    ASSIGNED 40
MATTOON                     ILL    OPERATING
  7  LAT 39-26 LON  88-21    ASSIGNED 26
MT VERNON                   ILL    OPERATING
  7  LAT 38-16 LON  88-52    ASSIGNED 38
OLNEY                       ILL    OPERATING
  7  LAT 38-44 LON  88- 5    ASSIGNED 16
PEKIN                       ILL    OPERATING
  6  LAT 40-33 LON  89-37    ASSIGNED 69
PEORIA                      ILL    OPERATING   43 25 31 19
  4  LAT 40-40 LON  89-36    ASSIGNED 37
QUINCY                      ILL    OPERATING
  6  LAT 39-54 LON  91-23    ASSIGNED 21 56
ROCKFORD                    ILL    OPERATING   39
  4  LAT 42-17 LON  89- 4    ASSIGNED 45 51
SPRINGFIELD                 ILL    OPERATING   26 20
  4  LAT 39-46 LON  89-37    ASSIGNED 36 66
STREATOR                    ILL    OPERATING
  7  LAT 41- 6 LON  88-48    ASSIGNED 65
VANDALIA                    ILL    OPERATING
  7  LAT 38-56 LON  89- 5    ASSIGNED 28
WAUKEGAN                    ILL    OPERATING
  5  LAT 42-21 LON  87-49    ASSIGNED 79
ANDERSON                    IND    OPERATING
  6  LAT 40- 4 LON  85-30    ASSIGNED 61 83
ANGOLA                      IND    OPERATING
  7  LAT 41-37 LON  85- 1    ASSIGNED 77
BEDFORD                     IND    OPERATING
  7  LAT 38-49 LON  86-27    ASSIGNED 68
BLOOMINGTON                 IND    OPERATING   30
  6  LAT 39- 8 LON  86-31    ASSIGNED 36
COLUMBUS                    IND    OPERATING
  7  LAT 39-12 LON  85-55    ASSIGNED 42 77
CONNERSVILLE                IND    OPERATING
  7  LAT 39-36 LON  85- 9    ASSIGNED 38
EVANSVILLE                  IND    OPERATING   50 14
  4  LAT 38- 0 LON  87-32    ASSIGNED
FORT WAYNE                  IND    OPERATING   15 33 21
  4  LAT 41- 3 LON  85- 9    ASSIGNED 69
GARY                        IND    OPERATING
  4  LAT 41-34 LON  87-19    ASSIGNED 50 66
GREENSBERG                  IND    OPERATING
  7  LAT 39-17 LON  85-29    ASSIGNED
HAMMOND                     IND    OPERATING
  4  LAT 41-36 LON  87-27    ASSIGNED 56
HARTFORD CITY               IND    OPERATING
  7  LAT 40-27 LON  85-26    ASSIGNED
INDIANAPOLIS                IND    OPERATING
  2  LAT 39-44 LON  86- 9    ASSIGNED 39 67 20
JASPER                      IND    OPERATING
  7  LAT 38-22 LON  86-55    ASSIGNED 19
```

```
KOKOMO                       IND   OPERATING
  6  LAT 40-29 LON  86- 8     ASSIGNED 29
LAFAYETTE                    IND   OPERATING   18
  6  LAT 40-25 LON  86-52     ASSIGNED 59 47 41
LEBANON                      IND   OPERATING
  7  LAT 40- 0 LON  86-30     ASSIGNED 79
LOGANSPORT                   IND   OPERATING
  7  LAT 40-46 LON  86-24     ASSIGNED 51
MADISON                      IND   OPERATING
  7  LAT 38-44 LON  85-23     ASSIGNED 66
MARION                       IND   OPERATING   31
  6  LAT 40-33 LON  85-42     ASSIGNED
MICHIGAN CITY                IND   OPERATING
  6  LAT 41-41 LON  86-53     ASSIGNED 62 82
MUNCIE                       IND   OPERATING   49
  5  LAT 40- 9 LON  85-24     ASSIGNED 71 55
PLYMOUTH                     IND   OPERATING
  7  LAT 41-21 LON  86-19     ASSIGNED 34
PRINCETON                    IND   OPERATING
  7  LAT 38-21 LON  87-34     ASSIGNED 44
RENSSELAER                   IND   OPERATING
  7  LAT 40-58 LON  87- 6     ASSIGNED 72
RICHMOND                     IND   OPERATING
  6  LAT 39-49 LON  84-54     ASSIGNED 26
SALEM                        IND   OPERATING
  7  LAT 38-35 LON  86- 3     ASSIGNED
SHELBYVILLE                  IND   OPERATING
  7  LAT 39-29 LON  85-47     ASSIGNED 58
SOUTH BEND-ELKHART           IND   OPERATING   28 16 22
  3  LAT 41-39 LON  86- 6     ASSIGNED 52
SULLIVAN                     IND   OPERATING
  7  LAT 39- 5 LON  87-21     ASSIGNED 46
TELL CITY                    IND   OPERATING
  7  LAT 37-57 LON  86-45     ASSIGNED 78
TERRE HAUTE                  IND   OPERATING
  5  LAT 39-27 LON  87-24     ASSIGNED 63 73 57
VINCENNES                    IND   OPERATING
  7  LAT 38-41 LON  87-29     ASSIGNED 52
WASHINGTON                   IND   OPERATING
  7  LAT 38-37 LON  87- 9     ASSIGNED 81 25
ALGONA                        IA   OPERATING
  7  LAT 43- 4 LON  94-10     ASSIGNED 37 70
AMES                          IA   OPERATING
  6  LAT 42- 0 LON  93-34     ASSIGNED 25 69
ATLANTIC                      IA   OPERATING
  7  LAT 41-23 LON  95- 0     ASSIGNED 45 51
BOONE                         IA   OPERATING
  7  LAT 42- 4 LON  93-50     ASSIGNED 19
BURLINGTON                    IA   OPERATING
  6  LAT 40-48 LON  91- 7     ASSIGNED 32 38
CARROLL                       IA   OPERATING
  7  LAT 42- 2 LON  94-49     ASSIGNED 39 61
```

```
CEDAR FALLS              IA      OPERATING
  7  LAT 42-31 LON  92-24      ASSIGNED 67
CEDAR RAPIDS             IA      OPERATING
  4  LAT 42- 0 LON  91-40      ASSIGNED 20 29
CENTERVILLE              IA      OPERATING
  7  LAT 40-41 LON  92-50      ASSIGNED 31 41
CHARLES CITY             IA      OPERATING
  7  LAT 43- 3 LON  92-38      ASSIGNED 18 77
CHEROKEE                 IA      OPERATING
  7  LAT 42-44 LON  95-31      ASSIGNED 14 66
CLINTON                  IA      OPERATING
  6  LAT 41-49 LON  90-10      ASSIGNED 64 80
COUNCIL BLUFFS           IA      OPERATING
  5  LAT 41-17 LON  95-54      ASSIGNED 56 68 74
CRESTON                  IA      OPERATING
  7  LAT 41- 2 LON  94-20      ASSIGNED 43 55
DAVROCKISLMOLINEILL      IA      OPERATING
  4  LAT 41-29 LON  90-33      ASSIGNED 42 68 30
DECORAH                  IA      OPERATING
  7  LAT 43-17 LON  91-47      ASSIGNED 44
DES MOINES               IA      OPERATING
  4  LAT 41-31 LON  93-31      ASSIGNED 17 23 75
DUBUQUE                  IA      OPERATING
  5  LAT 42-29 LON  90-39      ASSIGNED 56 62 40
ESTHERVILLE              IA      OPERATING
  7  LAT 43-24 LON  94-48      ASSIGNED 24 64
FAIRFIELD                IA      OPERATING
  7  LAT 41- 0 LON  91-57      ASSIGNED 54
FORT DODGE               IA      OPERATING   21
  6  LAT 42-29 LON  94- 9      ASSIGNED 59
FORT MADISON             IA      OPERATING
  7  LAT 40-37 LON  91-18      ASSIGNED 50 81
GRAETTINGER              IA      OPERATING
  7  LAT 43-13 LON  94-37      ASSIGNED 53 82
GRINNELL                 IA      OPERATING
  7  LAT 41-44 LON  92-41      ASSIGNED 71
IOWA CITY                IA      OPERATING
  6  LAT 41-38 LON  91-31      ASSIGNED 24
KEOKUK                   IA      OPERATING
  7  LAT 40-24 LON  91-24      ASSIGNED 44
KNOXVILLE                IA      OPERATING
  7  LAT 41-17 LON  93- 4      ASSIGNED 33
MARSHALLTOWN             IA      OPERATING
  7  LAT 42- 2 LON  92-51      ASSIGNED 49
MASON CITY               IA      OPERATING
  6  LAT 43- 8 LON  93-20      ASSIGNED 35 48 80
MUSCATINE                IA      OPERATING
  7  LAT 41-23 LON  91- 1      ASSIGNED 58
NEWTON                   IA      OPERATING
  7  LAT 41-41 LON  93- 0      ASSIGNED 65
OELWEIN                  IA      OPERATING
  7  LAT 42-40 LON  91-54      ASSIGNED 28
```

```
ONAWA                      IA    OPERATING
  7  LAT 42- 1 LON  96- 4   ASSIGNED 58
OSKALOOSA                  IA    OPERATING
  7  LAT 41-17 LON  92-37   ASSIGNED 52
OTTUMWA                    IA    OPERATING
  6  LAT 41- 0 LON  92-21   ASSIGNED 15 63
RED OAK                    IA    OPERATING
  7  LAT 41- 0 LON  95-11   ASSIGNED 32 72
SHENANDOAH                 IA    OPERATING
  7  LAT 40-46 LON  95- 0   ASSIGNED 20 78
SIOUX CITY                 IA    OPERATING
  5  LAT 42-29 LON  96-21   ASSIGNED 36 30 63
SPENCER                    IA    OPERATING
  7  LAT 43- 8 LON  95- 5   ASSIGNED 42
STORM LAKE                 IA    OPERATING
  7  LAT 42-39 LON  95- 9   ASSIGNED 34
WASHINGTON                 IA    OPERATING
  7  LAT 41-17 LON  91-39   ASSIGNED 79
WATERLOO                   IA    OPERATING
  4  LAT 42-29 LON  92-19   ASSIGNED 16 46 22 83
WEBSTER CITY               IA    OPERATING
  7  LAT 42-27 LON  93-47   ASSIGNED 27
ABILENE                   KAN    OPERATING
  7  LAT 38-54 LON  97-11   ASSIGNED 31 69
ARKANSAS CITY             KAN    OPERATING
  7  LAT 37- 2 LON  97- 1   ASSIGNED 49
ATCHISON                  KAN    OPERATING
  7  LAT 39-32 LON  95- 7   ASSIGNED 60
CHANUTE                   KAN    OPERATING
  7  LAT 37-40 LON  95-27   ASSIGNED 50
COFFEYVILLE               KAN    OPERATING
  7  LAT 37- 2 LON  95-36   ASSIGNED 33
COLBY                     KAN    OPERATING
  7  LAT 39-23 LON 101- 2   ASSIGNED 22 35 61 72 76
COLUMBUS                  KAN    OPERATING
  7  LAT 37-10 LON  94-49   ASSIGNED 67
CONCORDIA                 KAN    OPERATING
  7  LAT 39-33 LON  97-38   ASSIGNED 47 53
DODGE CITY                KAN    OPERATING
  7  LAT 37-44 LON 100- 1   ASSIGNED 23 50 70 83
EL DORADO                 KAN    OPERATING
  7  LAT 37-47 LON  96-50   ASSIGNED 55
ELLSWORTH                 KAN    OPERATING
  7  LAT 38-33 LON  98-13   ASSIGNED 52 58
EMPORIA                   KAN    OPERATING
  7  LAT 38-23 LON  96-10   ASSIGNED 39 75
ENSIGN                    KAN    OPERATING
  7  LAT 37-38 LON 100-16   ASSIGNED 41 59
EUREKA                    KAN    OPERATING
  7  LAT 37-47 LON  96-16   ASSIGNED 80
FORT SCOTT                KAN    OPERATING
  7  LAT 37-50 LON  94-41   ASSIGNED 27 79
```

```
GARDEN CITY               KAN   OPERATING
  7  LAT 37-56 LON 100-52    ASSIGNED 25 46
GOODLAND                  KAN   OPERATING
  7  LAT 39-19 LON 101-41    ASSIGNED 31 43 52 69 82
GRAINFIELD                KAN   OPERATING
  7  LAT 39- 6 LON 100-29    ASSIGNED 33 39 81
GREAT BEND                KAN   OPERATING
  7  LAT 38-20 LON  98-46    ASSIGNED 28 63
HAYS                      KAN   OPERATING
  7  LAT 38-51 LON  99-19    ASSIGNED 20 60 76
HOWARD                    KAN   OPERATING
  7  LAT 37-25 LON  96-13    ASSIGNED 74
HUTCHINSON                KAN   OPERATING
  6  LAT 38- 1 LON  97-55    ASSIGNED 18 61
INDEPENDENCE              KAN   OPERATING
  7  LAT 37-13 LON  95-41    ASSIGNED 20
IOLA                      KAN   OPERATING
  7  LAT 37-54 LON  95-23    ASSIGNED 44 77
JUNCTION CITY             KAN   OPERATING
  7  LAT 39- 2 LON  96-48    ASSIGNED 29 59
LAKIN                     KAN   OPERATING
  7  LAT 37-55 LON 101-14    ASSIGNED 19 62 71
LARNED                    KAN   OPERATING
  7  LAT 38-10 LON  99- 6    ASSIGNED 15 79
LAWRENCE                  KAN   OPERATING
  6  LAT 38-57 LON  95-13    ASSIGNED 17 70
LEAVENWORTH               KAN   OPERATING
  7  LAT 39-17 LON  94-54    ASSIGNED 54
LIBERAL                   KAN   OPERATING
  7  LAT 37- 2 LON 100-55    ASSIGNED 14 51 67
MCPHERSON                 KAN   OPERATING
  7  LAT 38-21 LON  97-39    ASSIGNED 26
MANHATTAN                 KAN   OPERATING
  7  LAT 39-10 LON  96-33    ASSIGNED 23
NEWTON                    KAN   OPERATING
  7  LAT 38- 2 LON  97-20    ASSIGNED 14
OLATHE                    KAN   OPERATING
  7  LAT 38-52 LON  94-48    ASSIGNED 52
OTTAWA                    KAN   OPERATING
  7  LAT 38-36 LON  95-15    ASSIGNED 21
PARSONS                   KAN   OPERATING
  7  LAT 37-19 LON  95-15    ASSIGNED 46
PHILLIPSBURG              KAN   OPERATING
  7  LAT 39-44 LON  99-18    ASSIGNED 30 51 64 73
PITTSBURG                 KAN   OPERATING
  7  LAT 37-23 LON  94-41    ASSIGNED 38
PRATT                     KAN   OPERATING
  7  LAT 37-36 LON  98-42    ASSIGNED 36 57
SALINA                    KAN   OPERATING   34
  6  LAT 38-50 LON  97-35    ASSIGNED 56
SEDAN                     KAN   OPERATING
  7  LAT 37- 6 LON  96- 9    ASSIGNED 68
```

```
TOPEKA                KAN   OPERATING
  4  LAT 39- 2 LON  95-39    ASSIGNED 42 48 81
WELLINGTON            KAN   OPERATING
  7  LAT 37-14 LON  97-24    ASSIGNED 24 71
WICHITA               KAN   OPERATING
  3  LAT 37-40 LON  97-20    ASSIGNED 16 22 82
WINFIELD              KAN   OPERATING
  7  LAT 37-13 LON  97- 0    ASSIGNED 43
ASHLAND                KY   OPERATING   59
  6  LAT 38-27 LON  82-39    ASSIGNED 78
BOWLING GREEN          KY   OPERATING
  6  LAT 37- 0 LON  86-26    ASSIGNED 17 74
CORBIN                 KY   OPERATING   16
  7  LAT 36-55 LON  84- 6    ASSIGNED 60
COVINGTON              KY   OPERATING
  5  LAT 39- 4 LON  84-31    ASSIGNED 54
DANVILLE               KY   OPERATING
  7  LAT 37-47 LON  84-47    ASSIGNED 35
ELIZABETHTOWN          KY   OPERATING
  7  LAT 37-41 LON  85-53    ASSIGNED 23 76
FRANKFORT              KY   OPERATING
  7  LAT 38-10 LON  84-54    ASSIGNED 43 82
GLASGLOW               KY   OPERATING
  7  LAT 37- 0 LON  85-55    ASSIGNED 28
HARLAN                 KY   OPERATING
  7  LAT 36-52 LON  83-18    ASSIGNED 73
HAZARD                 KY   OPERATING
  7  LAT 37-14 LON  83-11    ASSIGNED 68 19
HENDERSON              KY   OPERATING
  7  LAT 37-49 LON  87-32    ASSIGNED 75
HOPKINSVILLE           KY   OPERATING
  7  LAT 36-52 LON  87-27    ASSIGNED 20
LEXINGTON              KY   OPERATING   27 18
  4  LAT 38- 1 LON  84-30    ASSIGNED 40 64 46
LOUISVILLE             KY   OPERATING   21 15 32 41
  2  LAT 38-14 LON  85-44    ASSIGNED
MADISONVILLE           KY   OPERATING
  7  LAT 37-19 LON  87-29    ASSIGNED 26
MAYFIELD               KY   OPERATING
  7  LAT 36-45 LON  88-34    ASSIGNED 63
MAYSVILLE              KY   OPERATING
  7  LAT 38-37 LON  83-45    ASSIGNED 24
MIDDLESBORO            KY   OPERATING
  7  LAT 36-36 LON  83-42    ASSIGNED 57 63
MOREHEAD               KY   OPERATING
  7  LAT 38-11 LON  83-29    ASSIGNED 36
MURRAY                 KY   OPERATING
  7  LAT 36-39 LON  88-17    ASSIGNED 83 33
OWENSBORO              KY   OPERATING   62
  6  LAT 38-45 LON  87- 6    ASSIGNED 56
PADUCAH                KY   OPERATING
  6  LAT 37- 3 LON  88-44    ASSIGNED 43 72
```

```
PIKEVILLE                 KY    OPERATING
  7  LAT 37-25 LON  82-31    ASSIGNED 14 47
PRINCETON                 KY    OPERATING
  7  LAT 37- 5 LON  87-52    ASSIGNED 45
RICHMOND                  KY    OPERATING
  7  LAT 37-44 LON  84-19    ASSIGNED 80
SOMERSET                  KY    OPERATING   29
  7  LAT 37- 5 LON  84-36    ASSIGNED 83
WINCHESTER                KY    OPERATING
  7  LAT 37-58 LON  84-11    ASSIGNED 70
ABBEVILLE                 LA    OPERATING
  7  LAT 29-58 LON  92- 6    ASSIGNED 27
ALEXANDRIA                LA    OPERATING
  6  LAT 31-17 LON  92-25    ASSIGNED 62 74
BASTROP                   LA    OPERATING
  7  LAT 32-44 LON  91-53    ASSIGNED 53
BATON ROUGE               LA    OPERATING   18 28
  4  LAT 30-27 LON  91- 9    ASSIGNED 40 34
BOGALUSA                  LA    OPERATING
  7  LAT 30-47 LON  89-50    ASSIGNED 69 78
COVINGTON                 LA    OPERATING
  7  LAT 30-29 LON  90- 6    ASSIGNED
CROWLEY                   LA    OPERATING
  7  LAT 30-13 LON  92-21    ASSIGNED 76
DE RIDDER                 LA    OPERATING
  7  LAT 30-49 LON  93-17    ASSIGNED 70 82
DONALDSONVILLE            LA    OPERATING
  7  LAT 30- 4 LON  91- 0    ASSIGNED 65
EUNICE                    LA    OPERATING
  7  LAT 30-29 LON  92-24    ASSIGNED 64
FRANKLIN                  LA    OPERATING
  7  LAT 29-45 LON  91-29    ASSIGNED 46
HAMMOND                   LA    OPERATING
  7  LAT 30-30 LON  90-27    ASSIGNED 57
HOUMA                     LA    OPERATING
  7  LAT 29-34 LON  90-42    ASSIGNED 30 63
JACKSON                   LA    OPERATING
  7  LAT 30-49 LON  91-11    ASSIGNED 59
JENNINGS                  LA    OPERATING
  7  LAT 30-13 LON  92-38    ASSIGNED 48
LAFAYETTE                 LA    OPERATING
  6  LAT 30-14 LON  92- 0    ASSIGNED 38
LAKE CHARLES              LA    OPERATING   25
  5  LAT 30-14 LON  93-12    ASSIGNED 60 14
MANSFIELD                 LA    OPERATING
  7  LAT 32- 1 LON  93-42    ASSIGNED 63 73
MINDEN                    LA    OPERATING
  7  LAT 32-35 LON  93-18    ASSIGNED 30
MONROE                    LA    OPERATING
  5  LAT 32-29 LON  92- 6    ASSIGNED 43 72 81
MORGAN CITY               LA    OPERATING
  7  LAT 29-39 LON  91- 9    ASSIGNED 36
```

```
NATCHITOCHES                LA    OPERATING
  7  LAT 31-44 LON  93- 4      ASSIGNED 17 33
NEW IBERIA                  LA    OPERATING
  6  LAT 30- 0 LON  91-49      ASSIGNED 15 68
NEW ORLEANS                 LA    OPERATING
  2  LAT 30- 0 LON  90- 4      ASSIGNED 20 26 32 61 81
OAKDALE                     LA    OPERATING
  7  LAT 30-48 LON  92-38      ASSIGNED 54
OPELOUSAS                   LA    OPERATING
  7  LAT 30-32 LON  92- 4      ASSIGNED 58
RUSTON                      LA    OPERATING
  7  LAT 32-30 LON  92-38      ASSIGNED 20 55
SHREVEPORT                  LA    OPERATING
  4  LAT 32-29 LON  93-45      ASSIGNED 75
SLIDELL                     LA    OPERATING
  7  LAT 30-16 LON  89-45      ASSIGNED 52
TALLULAH                    LA    OPERATING
  7  LAT 32-24 LON  91-10      ASSIGNED 51
THIBODAUX                   LA    OPERATING
  7  LAT 29-46 LON  90-48      ASSIGNED 24
WINNFIELD                   LA    OPERATING
  7  LAT 31-54 LON  92-38      ASSIGNED 22
AUBURN                      ME    OPERATING
  7  LAT 44-11 LON  70-14      ASSIGNED 23 83
AUGUSTA                     ME    OPERATING
  7  LAT 44-18 LON  69-49      ASSIGNED 29 77
BANGOR                      ME    OPERATING
  6  LAT 44-46 LON  68-46      ASSIGNED 16 60
BAR HARBOR                  ME    OPERATING
  7  LAT 44-22 LON  68-13      ASSIGNED 22 28 38 57 63 76
BATH                        ME    OPERATING
  7  LAT 43-54 LON  69-49      ASSIGNED 65
BELFAST                     ME    OPERATING
  7  LAT 44-25 LON  69- 0      ASSIGNED 41 73
BIDDEFORD                   ME    OPERATING
  7  LAT 43-29 LON  70-29      ASSIGNED 59 19
CALAIS                      ME    OPERATING
  7  LAT 45- 8 LON  67-14      ASSIGNED 20 26 32 44 50 56 62 68 74 80
DOVER-FOXCROFT              ME    OPERATING
  7  LAT 45-10 LON  69-13      ASSIGNED 18 64
FORTKENT                    ME    OPERATING
  7  LAT 47-13 LON  68-36      ASSIGNED 17 23 35 41 47 53 63 69 75 81
HOULTON                     ME    OPERATING
  7  LAT 46- 7 LON  67-49      ASSIGNED 24 36 58 67 79
LEWISTON                    ME    OPERATING
  6  LAT 44- 4 LON  70-10      ASSIGNED 17 71
MILLINOCKET                 ME    OPERATING
  7  LAT 45-39 LON  68-42      ASSIGNED 14 27 48 70
ORONO                       ME    OPERATING
  7  LAT 44-42 LON  68-39      ASSIGNED 54 82
PORTLAND                    ME    OPERATING
  4  LAT 43-39 LON  70-14      ASSIGNED 53 47 81
```

```
PRESQUE ISLE           ME    OPERATING
  7  LAT 46-30 LON  67-56     ASSIGNED 19 45
ROCKLAND               ME    OPERATING
  7  LAT 44- 5 LON  69- 7     ASSIGNED 25
RUMFORD                ME    OPERATING
  7  LAT 44-32 LON  70-34     ASSIGNED 55
VAN BUREN              ME    OPERATING
  7  LAT 47- 8 LON  67-57     ASSIGNED 15 25 57
WATERVILLE             ME    OPERATING
  7  LAT 44-34 LON  69-37     ASSIGNED 35
ANNAPOLIS              MD    OPERATING
  7  LAT 38-57 LON  76-29     ASSIGNED 53
BALTIMORE              MD    OPERATING   24 72
  1  LAT 39-17 LON  76-37     ASSIGNED 66
CAMBRIDGE              MD    OPERATING
  7  LAT 38-33 LON  76- 6     ASSIGNED 56
CUMBERLAND             MD    OPERATING
  6  LAT 39-39 LON  78-43     ASSIGNED 17 30
FREDERICK              MD    OPERATING
  7  LAT 39-25 LON  77-26     ASSIGNED 62
HAGERSTOWN             MD    OPERATING
  6  LAT 39-38 LON  77-44     ASSIGNED 52 68
LOWER MARLBORO         MD    OPERATING
  7  LAT 38-38 LON  76-40     ASSIGNED 44 74
OLNEY                  MD    OPERATING
  7  LAT 39- 8 LON  77- 3     ASSIGNED 78
WESTMINSTER            MD    OPERATING
  7  LAT 39-36 LON  77- 0     ASSIGNED
SALISBURY              MD    OPERATING   16
  7  LAT 38-21 LON  75-36     ASSIGNED 16 22
ADAMS                  MASS  OPERATING   17
  7  LAT 42-34 LON  73- 9     ASSIGNED 80
AMHERST                MASS  OPERATING
  7  LAT 42-21 LON  72-30     ASSIGNED 82
BARNSTABLE             MASS  OPERATING
  7  LAT 41-41 LON  70-17     ASSIGNED 25 66
BOSTON                 MASS  OPERATING   56
  1  LAT 42-14 LON  71- 6     ASSIGNED 38 44
BROCKTON               MASS  OPERATING
  4  LAT 42- 4 LON  71- 0     ASSIGNED 62 74
EASTHAMPTON            MASS  OPERATING
  7  LAT 42-14 LON  72-40     ASSIGNED 61
FALL RIVER             MASS  OPERATING
  4  LAT 41-39 LON  71- 9     ASSIGNED 46 68
GREENFIELD             MASS  OPERATING   32
  7  LAT 42-34 LON  72-37     ASSIGNED 58
LAWRENCE               MASS  OPERATING
  4  LAT 42-40 LON  71-10     ASSIGNED 72
LOWELL                 MASS  OPERATING
  4  LAT 42-39 LON  71-19     ASSIGNED 78
NEW BEDFORD            MASS  OPERATING
  4  LAT 41-36 LON  71- 0     ASSIGNED 28 34
```

```
PITTSFIELD              MASS  OPERATING   64
  5  LAT 42-26 LON  73-14    ASSIGNED
SPRINGFIELD-HOLYOKE     MASS  OPERATING   40 22
  3  LAT 42- 8 LON  72-37    ASSIGNED
WILLIAMSTOWN            MASS  OPERATING
  7  LAT 42-42 LON  73-11    ASSIGNED
WORCESTER               MASS  OPERATING   14
  4  LAT 42-14 LON  71-49    ASSIGNED 27
ALMA                    MICH  OPERATING
  7  LAT 43-23 LON  84-37    ASSIGNED 41
ALPENA                  MICH  OPERATING
  7  LAT 45- 3 LON  83-25    ASSIGNED 30 18 54 64 70 76
ANN ARBOR               MICH  OPERATING
  4  LAT 42-16 LON  83-43    ASSIGNED 66 26
BAD AXE                 MICH  OPERATING
  7  LAT 43-47 LON  82-55    ASSIGNED 46 81
BATTLE CREEK            MICH  OPERATING
  6  LAT 42-18 LON  85-10    ASSIGNED 58 64
BAY CITY                MICH  OPERATING
  5  LAT 43-36 LON  83-52    ASSIGNED 63 73 19
BENTON HARBOR           MICH  OPERATING
  7  LAT 42- 4 LON  86-27    ASSIGNED 40
BIG RAPIDS              MICH  OPERATING
  7  LAT 43-42 LON  85-29    ASSIGNED 39 71
CADILLAC                MICH  OPERATING
  7  LAT 44-14 LON  85-24    ASSIGNED 45 69 79
CALUMET                 MICH  OPERATING
  7  LAT 47-14 LON  88-25    ASSIGNED 36 42 52 61 70 79
CHEBOYGAN               MICH  OPERATING
  7  LAT 45-37 LON  84-28    ASSIGNED 36 52 72
DETROIT                 MICH  OPERATING   20 56
  1  LAT 42-19 LON  83- 0    ASSIGNED 50 38
EAST LANSING            MICH  OPERATING
  6  LAT 42-46 LON  84-29    ASSIGNED 60 24
EAST TAWAS              MICH  OPERATING
  7  LAT 44-17 LON  83-28    ASSIGNED 21 43
ESCANABA                MICH  OPERATING
  7  LAT 45-44 LON  87- 4    ASSIGNED 49 60 82
FLINT                   MICH  OPERATING
  3  LAT 43- 1 LON  83-39    ASSIGNED 16 28 22
GLADSTONE               MICH  OPERATING
  7  LAT 45-50 LON  87- 0    ASSIGNED 40 66
GRAND RAPIDS            MICH  OPERATING
  3  LAT 43- 0 LON  85-41    ASSIGNED 23 17
HOUGHTON                MICH  OPERATING
  7  LAT 47- 5 LON  88-31    ASSIGNED 19 25
IRON MOUNTAIN           MICH  OPERATING
  7  LAT 45-49 LON  88- 3    ASSIGNED 27 43 76
IRON RIVER              MICH  OPERATING
  7  LAT 46- 5 LON  88-37    ASSIGNED 33 53 63 73
IRONWOOD                MICH  OPERATING
  7  LAT 46-26 LON  90- 8    ASSIGNED 31 41 57 67 80
```

```
JACKSON                     MICH  OPERATING
  5  LAT 42-16 LON  84-26     ASSIGNED 48
KALAMAZOO                   MICH  OPERATING
  4  LAT 42-19 LON  85-37     ASSIGNED 74 46 80
LANSING                     MICH  OPERATING
  4  LAT 42-44 LON  84-34     ASSIGNED 54 76
LUDINGTON                   MICH  OPERATING
  7  LAT 44- 0 LON  86-27     ASSIGNED 33 67
MANISTEE                    MICH  OPERATING
  7  LAT 44- 3 LON  86-19     ASSIGNED 15
MANISTIQUE                  MICH  OPERATING
  7  LAT 45-57 LON  86-14     ASSIGNED 14 23 77
MARQUETTE                   MICH  OPERATING
  7  LAT 46-31 LON  87-22     ASSIGNED 17 35 71
MIDLAND                     MICH  OPERATING
  6  LAT 43-39 LON  84-17     ASSIGNED 25 82
MOUNT PLEASANT              MICH  OPERATING
  7  LAT 43-36 LON  84-46     ASSIGNED 47 14
MUSKEGON                    MICH  OPERATING
  7  LAT 43-13 LON  86-14     ASSIGNED 29 35
PARMA-ONONDAGA              MICH  OPERATING
  7  LAT 42-25 LON  84-33     ASSIGNED 18
PETOSKEY                    MICH  OPERATING
  7  LAT 45-22 LON  85-57     ASSIGNED 31 58
PONTIAC                     MICH  OPERATING
  5  LAT 42-39 LON  83-17     ASSIGNED 44
PORT HURON                  MICH  OPERATING
  6  LAT 42-56 LON  82-26     ASSIGNED 62 33 68 78
ROGERS CITY                 MICH  OPERATING
  7  LAT 45-25 LON  83-49     ASSIGNED 24 48 74 80
SAGINAW                     MICH  OPERATING   57
  4  LAT 43-26 LON  83-56     ASSIGNED 51
SAULT STE MARIE             MICH  OPERATING
  7  LAT 46-28 LON  84-17     ASSIGNED 28 34 15 44 55 61 78
TRAVERSE CITY               MICH  OPERATING
  7  LAT 44-44 LON  85-39     ASSIGNED 20 26 50 75
WEST BRANCH                 MICH  OPERATING
  7  LAT 44-17 LON  84-11     ASSIGNED 27 53
ALBERT LEA                  MINN  OPERATING
  7  LAT 43-38 LON  93-20     ASSIGNED 57
ALEXANDRIA                  MINN  OPERATING
  7  LAT 45-52 LON  95-20     ASSIGNED 36 54 70 80
APPLETON                    MINN  OPERATING
  7  LAT 45-10 LON  96- 0     ASSIGNED 48 58
AUSTIN                      MINN  OPERATING
  6  LAT 43-39 LON  92-57     ASSIGNED 51 68
BEMIDJI                     MINN  OPERATING
  7  LAT 47-27 LON  94-50     ASSIGNED 24 43 76 82
BRAINERD                    MINN  OPERATING
  7  LAT 46-21 LON  94- 8     ASSIGNED 46 57
CLOQUET                     MINN  OPERATING
  7  LAT 46-44 LON  92-28     ASSIGNED 44 66
```

```
CROOKSTON             MINN  OPERATING
  7  LAT 47-44 LON  96-35    ASSIGNED 21 52
DETROIT LAKES         MINN  OPERATING
  7  LAT 46-49 LON  95-49    ASSIGNED 18 53
DULUTH-SUPERIOR WIS   MINN  OPERATING
  4  LAT 46-46 LON  92- 4    ASSIGNED 38 32 50 60 72
ELY                   MINN  OPERATING
  7  LAT 47-53 LON  91-51    ASSIGNED 16 34 55 64 73
FAIRMONT              MINN  OPERATING
  7  LAT 43-38 LON  94-24    ASSIGNED 40 76
FARIBAULT             MINN  OPERATING
  7  LAT 44-17 LON  93-14    ASSIGNED 20
FERGUS FALLS          MINN  OPERATING
  7  LAT 46-16 LON  96- 3    ASSIGNED 16 62
GRAND RAPIDS          MINN  OPERATING
  7  LAT 47-14 LON  93-31    ASSIGNED 20 48 74
HASTINGS              MINN  OPERATING
  7  LAT 44-44 LON  92-50    ASSIGNED 29
HIBBING               MINN  OPERATING
  7  LAT 47-26 LON  92-54    ASSIGNED 42 68
INTERNATIONAL FALLS   MINN  OPERATING
  7  LAT 48-34 LON  94-22    ASSIGNED 22 31 47 63 79
LITTLE FALLS          MINN  OPERATING
  7  LAT 45-57 LON  94-21    ASSIGNED 14 67
MANKATO               MINN  OPERATING
  7  LAT 44- 9 LON  93-58    ASSIGNED 15 74
MARSHALL              MINN  OPERATING
  7  LAT 44-27 LON  95-47    ASSIGNED 22 52
MINNEAPOLIS-ST PAUL   MINN  OPERATING   17
  1  LAT 44-56 LON  93- 9    ASSIGNED 23 79
MONTEVIDEO            MINN  OPERATING
  7  LAT 44-51 LON  95-40    ASSIGNED 19 71 77
MOORHEAD              MINN  OPERATING
  7  LAT 46-51 LON  96-44    ASSIGNED 50 72
NEW ULM               MINN  OPERATING
  7  LAT 44-18 LON  94-24    ASSIGNED 43 65
NORTHFIELD            MINN  OPERATING
  7  LAT 44-27 LON  93- 8    ASSIGNED 26
OWATONNA              MINN  OPERATING
  7  LAT 44- 4 LON  93-11    ASSIGNED 45
PIPESTONE             MINN  OPERATING
  7  LAT 44- 0 LON  96-17    ASSIGNED 28 72
RED WING              MINN  OPERATING
  7  LAT 44-32 LON  92-31    ASSIGNED 63
ROCHESTER             MINN  OPERATING
  6  LAT 44- 0 LON  92-27    ASSIGNED 55 81
ST CLOUD              MINN  OPERATING
  6  LAT 45-33 LON  94- 7    ASSIGNED 33 49
STILLWATER            MINN  OPERATING
  7  LAT 45- 3 LON  92-48    ASSIGNED 39
THIEF RIVER FALLS     MINN  OPERATING
  7  LAT 48- 5 LON  96-10    ASSIGNED 15 41 71
```

```
VIRGINIA                 MINN  OPERATING
  7  LAT 47-30 LON  92-31    ASSIGNED 26 77
WADENA                   MINN  OPERATING
  7  LAT 46-25 LON  95- 5    ASSIGNED 27 59
WALKER                   MINN  OPERATING
  7  LAT 47- 4 LON  94-35    ASSIGNED 37 65
WILLMAR                  MINN  OPERATING
  7  LAT 45- 6 LON  95- 1    ASSIGNED 31 75
WINONA                   MINN  OPERATING
  6  LAT 44- 2 LON  91-37    ASSIGNED 61
WORTHINGTON              MINN  OPERATING
  7  LAT 43-37 LON  95-34    ASSIGNED 32
BILOXI                   MISS  OPERATING
  6  LAT 30-23 LON  88-52    ASSIGNED 50 44
BOONEVILLE               MISS  OPERATING
  7  LAT 34-36 LON  88-35    ASSIGNED 57 69
BROOKHAVEN               MISS  OPERATING
  7  LAT 31-34 LON  90-27    ASSIGNED 37 67
CANTON                   MISS  OPERATING
  7  LAT 32-45 LON  90- 2    ASSIGNED 16 80
CLARKSDALE               MISS  OPERATING
  7  LAT 34- 0 LON  90-30    ASSIGNED 32
COLUMBIA                 MISS  OPERATING
  7  LAT 31-14 LON  89-49    ASSIGNED 35
COLUMBUS                 MISS  OPERATING
  6  LAT 33-28 LON  88-25    ASSIGNED 28 82
CORINTH                  MISS  OPERATING
  7  LAT 34-55 LON  88-31    ASSIGNED 41
GREENVILLE               MISS  OPERATING
  6  LAT 33-24 LON  91- 2    ASSIGNED 27 21 61 78
GREENWOOD                MISS  OPERATING
  7  LAT 33-29 LON  90- 9    ASSIGNED 24
GRENADA                  MISS  OPERATING
  7  LAT 33-45 LON  89-47    ASSIGNED 44
GULFPORT                 MISS  OPERATING
  6  LAT 30-22 LON  89- 5    ASSIGNED 56 73
HATTIESBURG              MISS  OPERATING
  6  LAT 31-18 LON  89-18    ASSIGNED 17 60
HOLLY SPRINGS            MISS  OPERATING
  7  LAT 34-45 LON  89-27    ASSIGNED 67
JACKSON                  MISS  OPERATING   25
  4  LAT 32-16 LON  90-11    ASSIGNED 47 19 76
KOSCIUSKO                MISS  OPERATING
  7  LAT 33- 2 LON  89-36    ASSIGNED 52 68
LAUREL                   MISS  OPERATING
  6  LAT 31-40 LON  89- 7    ASSIGNED 33 66
LAUREL-PACHUTA           MISS  OPERATING
  6  LAT 31-52 LON  89- 0    ASSIGNED 39 55 72
LOUISVILLE               MISS  OPERATING
  7  LAT 33- 6 LON  89- 2    ASSIGNED 46
MATHISTON                MISS  OPERATING
  7  LAT 33-31 LON  89- 6    ASSIGNED 62
```

```
MCCOMB                    MISS  OPERATING
  7  LAT 31-13 LON  90-28    ASSIGNED 31
MERIDIAN                  MISS  OPERATING   30
  6  LAT 32-21 LON  88-41    ASSIGNED 36
NATCHEZ                   MISS  OPERATING
  7  LAT 31-31 LON  91-23    ASSIGNED 29
NEWTONDECATUR             MISS  OPERATING
  7  LAT 32-20 LON  89- 6    ASSIGNED 63
PASCAGOULA                MISS  OPERATING
  7  LAT 30-20 LON  88-32    ASSIGNED 22 16 77
PICAYUNE                  MISS  OPERATING
  7  LAT 30-30 LON  89-40    ASSIGNED 14
SARDIS                    MISS  OPERATING
  7  LAT 34-27 LON  89-54    ASSIGNED 65
STARKVILLE                MISS  OPERATING
  7  LAT 33-26 LON  88-48    ASSIGNED 34
STATE COLLEGE             MISS  OPERATING
  7  LAT 33-26 LON  88-48    ASSIGNED 40
TUPELO                    MISS  OPERATING
  7  LAT 34-14 LON  88-40    ASSIGNED 38
UNIVERSITY                MISS  OPERATING
  7  LAT 34-21 LON  89-32    ASSIGNED 20
VICKSBURG                 MISS  OPERATING
  6  LAT 32-19 LON  90-53    ASSIGNED 41 71
WEST POINT                MISS  OPERATING
  7  LAT 33-35 LON  88-38    ASSIGNED 56
YAZOO CITY                MISS  OPERATING
  7  LAT 32-49 LON  90-24    ASSIGNED 49
CAPE GIRARDEAU             MO   OPERATING
  6  LAT 37-16 LON  89-32    ASSIGNED 18 69
CARTHAGE                   MO   OPERATING
  7  LAT 37- 9 LON  94-18    ASSIGNED 56
CARUTHERSVILLE             MO   OPERATING
  7  LAT 36-10 LON  89-38    ASSIGNED 27
CHILLICOTHE                MO   OPERATING
  7  LAT 39-46 LON  93-32    ASSIGNED 14 53 64
CLINTON                    MO   OPERATING
  7  LAT 38-22 LON  93-45    ASSIGNED 49 61 71
COLUMBIA                   MO   OPERATING
  6  LAT 38-56 LON  92-18    ASSIGNED 16 22
FARMINGTON                 MO   OPERATING
  7  LAT 37-45 LON  90-25    ASSIGNED 52 73 79
FESTUS                     MO   OPERATING
  7  LAT 38-12 LON  90-22    ASSIGNED 25 60
FULTON                     MO   OPERATING
  7  LAT 38-50 LON  91-55    ASSIGNED 24 57
HANNIBAL                   MO   OPERATING
  7  LAT 39-41 LON  91-20    ASSIGNED 27 78
JEFFERSON CITY             MO   OPERATING
  6  LAT 38-34 LON  92-11    ASSIGNED 33 51 75
JOPLIN                     MO   OPERATING
  6  LAT 37- 4 LON  94-30    ASSIGNED 30 76
```

```
KANSAS CITY                MO    OPERATING   19
  2  LAT 39- 4 LON  94-34     ASSIGNED 25 65 83
KENNETT                    MO    OPERATING
  7  LAT 36-13 LON  90- 2     ASSIGNED 21
KIRKSVILLE                 MO    OPERATING
  7  LAT 40-11 LON  92-34     ASSIGNED 18 74
LEBANON                    MO    OPERATING
  7  LAT 37-40 LON  92-43     ASSIGNED 23 55 72 81
MARSHALL                   MO    OPERATING
  7  LAT 39- 5 LON  93-10     ASSIGNED 40 69
MARYVILLE                  MO    OPERATING
  7  LAT 40-20 LON  94-50     ASSIGNED 26 76
MEXICO                     MO    OPERATING
  7  LAT 39- 8 LON  91-50     ASSIGNED 45 67
MOBERLY                    MO    OPERATING
  7  LAT 39-24 LON  92-24     ASSIGNED 35 80
MONETT                     MO    OPERATING
  7  LAT 36-55 LON  93-55     ASSIGNED 14
NEVADA                     MO    OPERATING
  7  LAT 37-49 LON  94-20     ASSIGNED 18
POPLAR BLUFF               MO    OPERATING   15
  7  LAT 36-44 LON  90-23     ASSIGNED 47 56
ROLLA                      MO    OPERATING
  7  LAT 37-55 LON  91-44     ASSIGNED 46 63
ST JOSEPH                  MO    OPERATING
  5  LAT 39-44 LON  94-49     ASSIGNED 30 36 73
ST LOUIS                   MO    OPERATING
  1  LAT 38-34 LON  90-14     ASSIGNED 30 42
SEDALIA                    MO    OPERATING
  7  LAT 38-42 LON  93-11     ASSIGNED 28
SIKESTON                   MO    OPERATING
  7  LAT 36-51 LON  89-34     ASSIGNED 37
SPRINGFIELD                MO    OPERATING
  5  LAT 37-13 LON  93-16     ASSIGNED 32 26 59
WEST PLAINS                MO    OPERATING
  7  LAT 36-42 LON  91-50     ASSIGNED 20 29 83
ANACONDA                   MONT  OPERATING
  7  LAT 46- 6 LON 112-57     ASSIGNED 37 43
BILLINGS                   MONT  OPERATING
  5  LAT 45-46 LON 108-29     ASSIGNED 38 44 54 66 72 78
BOZEMAN                    MONT  OPERATING
  7  LAT 45-40 LON 111- 0     ASSIGNED 22 28 45 51 57 63 69 75 81
BUTTE                      MONT  OPERATING
  6  LAT 46- 0 LON 112-30     ASSIGNED 15 31 59 65 71 77 83
CUT BANK                   MONT  OPERATING
  7  LAT 48-37 LON 112-18     ASSIGNED 20 26 42 48 54 60 66 72
DEER LODGE                 MONT  OPERATING
  7  LAT 46-22 LON 112-43     ASSIGNED 25 49
DILLON                     MONT  OPERATING
  7  LAT 45-11 LON 112-37     ASSIGNED 20 26 47
GLASGOW                    MONT  OPERATING
  7  LAT 48-12 LON 106-38     ASSIGNED 16 22 28 38 44 50 56 62 68 74
```

```
GLENDIVE                  MONT  OPERATING
  7  LAT 47- 6 LON 104-40    ASSIGNED 18 24 37 43 49 55 61 67 73 79
GREAT FALLS               MONT  OPERATING
  5  LAT 47-30 LON 111-17    ASSIGNED 23 32 41 52 58 64 70 76 82
HAMILTON                  MONT  OPERATING
  7  LAT 46-14 LON 114- 9    ASSIGNED 17 33 55
HARDIN                    MONT  OPERATING
  7  LAT 45-44 LON 107-36    ASSIGNED 19 25 48 70 76 82
HAVRE                     MONT  OPERATING
  7  LAT 48-32 LON 109-40    ASSIGNED 15 21 31 37 43 49 55 61 67 73
HELENA                    MONT  OPERATING
  7  LAT 46-35 LON 112- 0    ASSIGNED 19 53
KALISPELL                 MONT  OPERATING
  7  LAT 48-11 LON 114-19    ASSIGNED 22 28 44 57 68 74
LAUREL                    MONT  OPERATING
  7  LAT 45-39 LON 108-46    ASSIGNED 14 60
LEWISTOWN                 MONT  OPERATING
  7  LAT 47- 4 LON 109-26    ASSIGNED 17 27 33 79
LIVINGSTON                MONT  OPERATING
  7  LAT 45-39 LON 110-34    ASSIGNED 16 39
MILES CITY                MONT  OPERATING
  7  LAT 46-24 LON 105-48    ASSIGNED 15 21 41 47 53 59 65 71 77 83
MISSOULA                  MONT  OPERATING
  6  LAT 46-51 LON 114- 0    ASSIGNED 21 30 50 61 67 78
POLSON                    MONT  OPERATING
  7  LAT 47-40 LON 114- 9    ASSIGNED 18 38
RED LODGE                 MONT  OPERATING
  7  LAT 45-11 LON 109-14    ASSIGNED 18 41
SHELBY                    MONT  OPERATING
  7  LAT 48-26 LON 111-49    ASSIGNED 14 36
SIDNEY                    MONT  OPERATING
  7  LAT 47-43 LON 104- 8    ASSIGNED 14 26 45
WHITEFISH                 MONT  OPERATING
  7  LAT 48-22 LON 114-20    ASSIGNED 16 34
WOLF POINT                MONT  OPERATING
  7  LAT 48- 5 LON 105-39    ASSIGNED 20 32 66 72 78
ALBION                    NEB   OPERATING
  7  LAT 41-41 LON  98- 0    ASSIGNED 31 57
ALLIANCE                  NEB   OPERATING
  7  LAT 42- 4 LON 102-50    ASSIGNED 21 37 49 55 61 71 77 83
ATKINSONONEILL            NEB   OPERATING
  7  LAT 42-30 LON  98-47    ASSIGNED 29 47 53 69 78
BASSETT                   NEB   OPERATING
  7  LAT 42-34 LON  99-53    ASSIGNED 24 34 51 72 82
BEATRICE                  NEB   OPERATING
  7  LAT 40-14 LON  96-44    ASSIGNED 40 79
BROKEN BOW                NEB   OPERATING
  7  LAT 41-23 LON  99-37    ASSIGNED 14 42 68
COLUMBUS                  NEB   OPERATING
  7  LAT 41-24 LON  97-20    ASSIGNED 49 70
FAIRBURY                  NEB   OPERATING
  7  LAT 40- 7 LON  97-10    ASSIGNED 35 66
```

```
FALLS CITY              NEB   OPERATING
  7  LAT 40- 2 LON  95-35   ASSIGNED 38 82
FREMONT                 NEB   OPERATING
  7  LAT 41-26 LON  96-28   ASSIGNED 52
GRAND ISLAND            NEB   OPERATING
  6  LAT 40-55 LON  98-19   ASSIGNED 21 37 65
HARTINGTON              NEB   OPERATING
  7  LAT 42-37 LON  97-16   ASSIGNED 60 81
HASTINGS                NEB   OPERATING
  7  LAT 40-34 LON  98-23   ASSIGNED 27 43 71 77
HAY SPRINGS             NEB   OPERATING
  7  LAT 42-35 LON 102-39   ASSIGNED 29 39 58 74 80
HAYES CENTER            NEB   OPERATING
  7  LAT 40-29 LON 101- 0   ASSIGNED 28 44 66 79
KEARNEY                 NEB   OPERATING
  7  LAT 40-41 LON  99- 1   ASSIGNED 19 46
KIMBALLSIDNEY           NEB   OPERATING
  7  LAT 41- 9 LON 103-19   ASSIGNED 33 45
LEXINGTON               NEB   OPERATING
  7  LAT 40-44 LON  99-44   ASSIGNED 23 48
LINCOLN                 NEB   OPERATING
  4  LAT 40-49 LON  96-40   ASSIGNED 18 24 44 62
MCCOOK                  NEB   OPERATING
  7  LAT 40-12 LON 100-37   ASSIGNED 17 56
NEBRASKA CITY           NEB   OPERATING
  7  LAT 40-41 LON  95-51   ASSIGNED 50
NORFOLK                 NEB   OPERATING
  7  LAT 42- 1 LON  97-23   ASSIGNED 33 83
NORTH PLATTE            NEB   OPERATING
  7  LAT 41- 8 LON 100-45   ASSIGNED 26 36
OMAHA                   NEB   OPERATING
  3  LAT 41-16 LON  95-56   ASSIGNED 22 28 16 80
ORD                     NEB   OPERATING
  7  LAT 41-34 LON  98-54   ASSIGNED 25 59
SCOTTSBLUFF             NEB   OPERATING
  7  LAT 41-51 LON 103-38   ASSIGNED 16 53 81
WAYNE                   NEB   OPERATING
  7  LAT 42-13 LON  97- 1   ASSIGNED 54
YORK                    NEB   OPERATING
  7  LAT 40-51 LON  97-34   ASSIGNED 15 75
BOULDER CITY            NEV   OPERATING
  7  LAT 36- 0 LON 114-52   ASSIGNED 22 50
CARLIN                  NEV   OPERATING
  7  LAT 40-42 LON 116-16   ASSIGNED 14 26 38 44 50 56 62 68 74
CARSON CITY             NEV   OPERATING
  7  LAT 39- 9 LON 119-44   ASSIGNED 37 55
ELKO                    NEV   OPERATING
  7  LAT 40-49 LON 115-44   ASSIGNED 20 32
ELY                     NEV   OPERATING
  7  LAT 39-14 LON 114-52   ASSIGNED 21 27 39 45 51 57 63 69 75 81
FALLON                  NEV   OPERATING
  7  LAT 39-28 LON 118-46   ASSIGNED 29 53
```

```
GOLDFIELD                 NEV   OPERATING
  7  LAT 37-41 LON 117-12    ASSIGNED 20 36 54 60 76 82
HAWTHORNE                 NEV   OPERATING
  7  LAT 38-30 LON 118-37    ASSIGNED 31 41 51 62 74
HENDERSON                 NEV   OPERATING
  7  LAT 36- 6 LON 115- 1    ASSIGNED 16 56
LAS VEGAS                 NEV   OPERATING
  5  LAT 36-10 LON 115- 8    ASSIGNED 28 38 44 62 68 74 80
LOVELOCK                  NEV   OPERATING
  7  LAT 40-10 LON 118-27    ASSIGNED 18 24 35 45 63 69 75 81
MCGILL                    NEV   OPERATING
  7  LAT 39-24 LON 114-46    ASSIGNED 15 33
RENO                      NEV   OPERATING
  5  LAT 39-31 LON 119-47    ASSIGNED 21 27 49 61 73 79
TONOPAH                   NEV   OPERATING
  7  LAT 38- 3 LON 117-12    ASSIGNED 14 42 70
WINNEMUCCA                NEV   OPERATING
  7  LAT 40-58 LON 117-42    ASSIGNED 15 34 40 46 58 64
YERINGTON                 NEV   OPERATING
  7  LAT 38-57 LON 119- 9    ASSIGNED 33 57
BERLIN                    NH    OPERATING
  7  LAT 44-28 LON  71-11    ASSIGNED 52 33
CLAREMONT                 NH    OPERATING
  7  LAT 43-22 LON  72-21    ASSIGNED 37
CONCORD                   NH    OPERATING
  6  LAT 43-11 LON  71-31    ASSIGNED 76
DURHAM                    NH    OPERATING
  7  LAT 43-10 LON  70-56    ASSIGNED 21
HANOVER                   NH    OPERATING
  7  LAT 43-41 LON  72-17    ASSIGNED 20 79
KEENE                     NH    OPERATING
  7  LAT 42-54 LON  72-17    ASSIGNED 45
LACONIA                   NH    OPERATING
  7  LAT 43-29 LON  71-29    ASSIGNED 43 70
LITTLETON                 NH    OPERATING
  7  LAT 44-17 LON  71-47    ASSIGNED 24 75
MANCHESTER                NH    OPERATING
  5  LAT 43- 0 LON  71-29    ASSIGNED 48
NASHUA                    NH    OPERATING
  6  LAT 42-44 LON  71-29    ASSIGNED 54
PORTSMOUTH                NH    OPERATING
  6  LAT 43- 4 LON  70-46    ASSIGNED 15
ROCHESTER                 NH    OPERATING
  7  LAT 43-19 LON  71- 0    ASSIGNED 51
ANDOVER                   NJ    OPERATING
  7  LAT 40-58 LON  74-43    ASSIGNED 69
ASBURY PARK               NJ    OPERATING   58
  7  LAT 40-14 LON  74- 0    ASSIGNED
ATLANTIC CITY             NJ    OPERATING   46
  4  LAT 39-20 LON  74-26    ASSIGNED 52 82
BRIDGETON                 NJ    OPERATING
  7  LAT 39-26 LON  75-16    ASSIGNED 64
```

```
CAMDEN                  NJ     OPERATING
  4  LAT 39-52 LON  75- 8     ASSIGNED 80
FREEHOLD                NJ     OPERATING
  7  LAT 40-15 LON  74-14     ASSIGNED 74
HAMMONTON               NJ     OPERATING
  7  LAT 39-36 LON  74-45     ASSIGNED 70
MONTCLAIR               NJ     OPERATING
  6  LAT 40-48 LON  74-12     ASSIGNED 77
NEWARK                  NJ     OPERATING
  3  LAT 40-44 LON  74- 9     ASSIGNED
NEW BRUNSWICK           NJ     OPERATING   19
  6  LAT 40-27 LON  74-27     ASSIGNED 47
PATERSON                NJ     OPERATING   37
  4  LAT 40-56 LON  74-11     ASSIGNED
PATERSONVPMONTCL        NJ     OPERATING   37
  6  LAT 40-52 LON  74-10     ASSIGNED
TRENTON                 NJ     OPERATING
  4  LAT 40-13 LON  74-43     ASSIGNED 41
WILDWOOD                NJ     OPERATING
  7  LAT 38-57 LON  74-51     ASSIGNED 40 28
ALAMOGORDO              NM     OPERATING
  7  LAT 32-53 LON 105-57     ASSIGNED 17 48 54 66 76 82
ALBUQUERQUE             NM     OPERATING
  4  LAT 35- 4 LON 106-38     ASSIGNED 28 40 49 58 77 83
ARTESIA                 NM     OPERATING
  7  LAT 32-51 LON 104-22     ASSIGNED 21 45 67
ATRISCO-FIVE POINTS     NM     OPERATING   18
  7  LAT 35- 3 LON 106-46     ASSIGNED 67
BELEN                   NM     OPERATING
  7  LAT 34-37 LON 106-46     ASSIGNED 24 36
CARLSBAD                NM     OPERATING
  6  LAT 32-23 LON 104-13     ASSIGNED 23 43 64 73 83
CLAYTON                 NM     OPERATING
  7  LAT 36-25 LON 103-10     ASSIGNED 27 44 72
CLOVIS                  NM     OPERATING
  7  LAT 34-23 LON 103-10     ASSIGNED 35 41
COLUMBUS                NM     OPERATING
  7  LAT 31-49 LON 107-37     ASSIGNED 16 32 67 73
DEMING                  NM     OPERATING
  7  LAT 32-15 LON 107-45     ASSIGNED 14 40 51
FARMINGTON              NM     OPERATING
  7  LAT 36-40 LON 108- 9     ASSIGNED 17 38 64
GALLUP                  NM     OPERATING
  7  LAT 35-30 LON 108-44     ASSIGNED 21 27 33 39 45 51 57 63 69 75
HATCH                   NM     OPERATING
  7  LAT 32-46 LON 107- 4     ASSIGNED 30 46 74
HOBBS                   NM     OPERATING
  6  LAT 32-41 LON 103- 7     ASSIGNED 46 40 62 74
HOT SPRINGS             NM     OPERATING
  7  LAT 33- 7 LON 107-18     ASSIGNED 19 52
LAS CRUCES              NM     OPERATING
  6  LAT 32-19 LON 106-48     ASSIGNED 22 42 70 79
```

```
LAS VEGAS                 NM    OPERATING
  7  LAT 35-34 LON 105-14    ASSIGNED 14 26 42 48 60 82
LORDSBURG                 NM    OPERATING
  7  LAT 32-21 LON 108-42    ASSIGNED 23 49
LOS ALAMOS                NM    OPERATING
  7  LAT 35-54 LON 106-19    ASSIGNED 20 61
LOVINGTON                 NM    OPERATING
  7  LAT 32-56 LON 103-19    ASSIGNED 27 56
PORTALES                  NM    OPERATING
  7  LAT 34-10 LON 103-20    ASSIGNED 22 51
RATON                     NM    OPERATING
  7  LAT 36-52 LON 104-26    ASSIGNED 46 52 78
ROSWELL                   NM    OPERATING
  6  LAT 33-22 LON 104-30    ASSIGNED 33 39 55 75
SANTA FE                  NM    OPERATING
  6  LAT 35-39 LON 106- 4    ASSIGNED 31 37 71 80
SILVER CITY               NM    OPERATING
  7  LAT 32-45 LON 108-18    ASSIGNED 27 60
SOCORRO                   NM    OPERATING
  7  LAT 34- 3 LON 106-53    ASSIGNED 15 41 47 65 78
TUCUMCARI                 NM    OPERATING
  7  LAT 35- 9 LON 103-42    ASSIGNED 25 59 65
ALBANY-SCHENECT-TROY      NY    OPERATING   35 41 17
  3  LAT 42-44 LON  73-47    ASSIGNED 23 29
AMSTERDAM                 NY    OPERATING
  6  LAT 42-55 LON  74- 9    ASSIGNED 52 74
AMSDAMGLOVEVILLE          NY    OPERATING
  5  LAT 43- 0 LON  74-14    ASSIGNED 52
BATAVIA                   NY    OPERATING
  7  LAT 43- 0 LON  78-11    ASSIGNED 19 79
BINGHAMTON                NY    OPERATING   34 40 46
  4  LAT 42- 6 LON  75-54    ASSIGNED 68
BOONLOWVILLE              NY    OPERATING
  7  LAT 43-36 LON  75-24    ASSIGNED 56 65
BUFFALO                   NY    OPERATING   17 23
  1  LAT 42-54 LON  78-54    ASSIGNED 29 48 74
CARTHAGE                  NY    OPERATING
  7  LAT 43-58 LON  75-38    ASSIGNED 36
CLYMER                    NY    OPERATING
  7  LAT 42- 0 LON  79-37    ASSIGNED 37
CORNINGELMIRA             NY    OPERATING   18
  5  LAT 42- 7 LON  76-57    ASSIGNED 24 30
CORTLAND                  NY    OPERATING
  7  LAT 42-35 LON  76- 8    ASSIGNED 72
DUNKIRK                   NY    OPERATING
  7  LAT 42-29 LON  79-19    ASSIGNED 46
ELMIRA                    NY    OPERATING   18
  6  LAT 42- 5 LON  76-49    ASSIGNED 24 30
GLENS FALLS               NY    OPERATING
  7  LAT 43-17 LON  73-37    ASSIGNED 39
HEMPSTEAD                 NY    OPERATING
  6  LAT 40-41 LON  73-36    ASSIGNED 79
```

```
HORNELL                   NY    OPERATING
  7  LAT 42-20 LON  77-39    ASSIGNED 50
ITHACA                    NY    OPERATING   14
  6  LAT 42-26 LON  76-30    ASSIGNED 78
JAMESTOWN                 NY    OPERATING
  6  LAT 42- 6 LON  79-14    ASSIGNED 58 70
KINGSTON                  NY    OPERATING
  6  LAT 41-57 LON  74- 0    ASSIGNED 66
LAKE PLACID               NY    OPERATING
  7  LAT 44-21 LON  73-53    ASSIGNED 38 44
MALONE                    NY    OPERATING
  7  LAT 44-51 LON  74-19    ASSIGNED 47 66 72
MASSENA                   NY    OPERATING
  7  LAT 44-56 LON  74-53    ASSIGNED 14 41
MIDDLETOWN                NY    OPERATING
  7  LAT 41-26 LON  74-26    ASSIGNED 60 50
NEW YORK                  NY    OPERATING   31 25
  1  LAT 40-41 LON  74- 0    ASSIGNED
OGDENSBURG                NY    OPERATING
  7  LAT 44-40 LON  75-29    ASSIGNED 24 63 69 82
OLEAN                     NY    OPERATING
  7  LAT 42- 4 LON  78-24    ASSIGNED 54
ONEONTA                   NY    OPERATING
  7  LAT 42-26 LON  75- 6    ASSIGNED 15 42 70
OSWEGO                    NY    OPERATING
  7  LAT 43-25 LON  76-29    ASSIGNED 31
PATCHOGUE                 NY    OPERATING
  7  LAT 40-45 LON  73- 0    ASSIGNED 75
PATCHRIVERHEAD            NY    OPERATING
  7  LAT 40-50 LON  72-50    ASSIGNED 75 26
PLATTSBURG                NY    OPERATING
  7  LAT 44-41 LON  73-37    ASSIGNED 28 68
POUGHKEEPSIE              NY    OPERATING
  6  LAT 41-41 LON  73-55    ASSIGNED 21 83
ROCHESTER                 NY    OPERATING   21
  3  LAT 43- 7 LON  77-34    ASSIGNED 27 47 53 71 77 83
SARANAC LAKE              NY    OPERATING
  7  LAT 44-21 LON  74- 5    ASSIGNED 18 60
SYRACUSE                  NY    OPERATING   43
  3  LAT 43- 4 LON  76- 9    ASSIGNED 33 67
UTICA-ROME                NY    OPERATING   25
  4  LAT 43-10 LON  75-21    ASSIGNED 54 76
VAIL MILLS                NY    OPERATING
  7  LAT 43- 4 LON  74-13    ASSIGNED 19
WATERTOWN                 NY    OPERATING
  6  LAT 43-57 LON  75-55    ASSIGNED 20 59
WILLIAMSVILLE             NY    OPERATING   29
  7  LAT 42-57 LON  78-44    ASSIGNED
AHOSKIE                   NC    OPERATING
  7  LAT 36-16 LON  76-58    ASSIGNED 53
ALBEMARLE                 NC    OPERATING
  7  LAT 35-22 LON  80-10    ASSIGNED 20
```

```
ASHEVILLE                  NC     OPERATING   62
  5  LAT 35-54 LON  82-33    ASSIGNED 78 56
BOONE                      NC     OPERATING
  7  LAT 36-12 LON  81-41    ASSIGNED 72
BURLINGTON                 NC     OPERATING
  6  LAT 36- 4 LON  79-25    ASSIGNED 63
CHAPEL HILL                NC     OPERATING
  7  LAT 35-54 LON  79- 2    ASSIGNED 79
CHARLOTTE                  NC     OPERATING   36
  4  LAT 35-13 LON  80-49    ASSIGNED 42 77
CLINTON                    NC     OPERATING
  7  LAT 34-58 LON  78-17    ASSIGNED 74
DURHAM                     NC     OPERATING
  5  LAT 36- 0 LON  78-54    ASSIGNED 46 73 40
ELIZABETH CITY             NC     OPERATING
  7  LAT 36-16 LON  76-13    ASSIGNED 31 37 58
ENFIELD                    NC     OPERATING
  7  LAT 36-11 LON  77-40    ASSIGNED 75
FAYETTEVILLE               NC     OPERATING
  6  LAT 35- 2 LON  78-54    ASSIGNED 18 54
FRANKLIN                   NC     OPERATING
  7  LAT 35-10 LON  83-23    ASSIGNED 81
GASTONIA                   NC     OPERATING
  6  LAT 35-15 LON  81-11    ASSIGNED 48
GOLDSBORO                  NC     OPERATING
  6  LAT 35-22 LON  77-58    ASSIGNED 34 72
GREENSBORO                 NC     OPERATING
  4  LAT 36- 3 LON  79-45    ASSIGNED 57 51
GREENSBORO-HIGHPOINT       NC     OPERATING
  4  LAT 36- 0 LON  79-52    ASSIGNED
GREENVILLE                 NC     OPERATING
  7  LAT 35-34 LON  77-21    ASSIGNED 66 78
HALIFAX                    NC     OPERATING
  7  LAT 36-29 LON  77-19    ASSIGNED 69
HENDERSON                  NC     OPERATING
  7  LAT 36-17 LON  78-21    ASSIGNED 52
HENDERSONVILLE             NC     OPERATING
  7  LAT 35-17 LON  82-27    ASSIGNED 27
HICKORY                    NC     OPERATING
  7  LAT 35-42 LON  81-20    ASSIGNED 30
HIGH POINT                 NC     OPERATING
  5  LAT 35-56 LON  80- 0    ASSIGNED 15
JACKSONVILLE               NC     OPERATING
  7  LAT 34-44 LON  77-25    ASSIGNED 16 39 83
KANNAPOLIS                 NC     OPERATING
  6  LAT 35-29 LON  80-37    ASSIGNED 59
KINSTON                    NC     OPERATING
  6  LAT 35-15 LON  77-35    ASSIGNED 45
LUMBERTON                  NC     OPERATING
  7  LAT 34-35 LON  78-58    ASSIGNED 21 76
LUARINBURG                 NC     OPERATING
  7  LAT 34-45 LON  79-27    ASSIGNED 41
```

```
MOUNT AIRY                 NC     OPERATING
  7  LAT 36-29 LON  80-36    ASSIGNED 55
NEW BERN                   NC     OPERATING
  7  LAT 35- 5 LON  77- 2    ASSIGNED 26 36
RALEIGH                    NC     OPERATING   28
  5  LAT 35-45 LON  78-38    ASSIGNED 22
ROANOKE RAPIDS             NC     OPERATING
  7  LAT 36-25 LON  77-38    ASSIGNED 30
ROCKY MOUNT                NC     OPERATING
  6  LAT 35-55 LON  77-47    ASSIGNED 50
SALISBURY                  NC     OPERATING
  7  LAT 35-38 LON  80-27    ASSIGNED 80
SANFORD                    NC     OPERATING
  7  LAT 35-26 LON  79- 9    ASSIGNED 38 82
SHELBY                     NC     OPERATING
  7  LAT 35-15 LON  81-33    ASSIGNED 39
SLADESVILLE                NC     OPERATING
  7  LAT 35-24 LON  76-29    ASSIGNED 20 55
SOUTHERN PINES             NC     OPERATING
  7  LAT 35- 7 LON  79-21    ASSIGNED 49
STATESVILLE                NC     OPERATING
  7  LAT 35-45 LON  80-53    ASSIGNED 64
WASHINGTON                 NC     OPERATING
  7  LAT 35-32 LON  77- 2    ASSIGNED 47
WILMINGTON                 NC     OPERATING
  6  LAT 34-13 LON  77-56    ASSIGNED 29 35 64 70
WILSON                     NC     OPERATING
  6  LAT 35-42 LON  77-55    ASSIGNED 56
WINSTON-SALEM              NC     OPERATING    26
  4  LAT 36- 4 LON  80-13    ASSIGNED 32
BISMARCK                   ND     OPERATING
  6  LAT 46-48 LON 100-45    ASSIGNED 18 24 30 36 47 53 59 65 71 77
BOTTINEAU                  ND     OPERATING
  7  LAT 48-49 LON 100-26    ASSIGNED 16 27 60 73 79
CARRINGTON                 ND     OPERATING
  7  LAT 47-25 LON  99- 7    ASSIGNED 26 44 80
DEVILS LAKE                ND     OPERATING
  7  LAT 48- 6 LON  98-50    ASSIGNED 14 46 74
DICKINSON                  ND     OPERATING
  7  LAT 46-51 LON 102-47    ASSIGNED 17 28 39 50 56 62 68 74
ELLENDALE                  ND     OPERATING
  7  LAT 45-58 LON  98-30    ASSIGNED 29 51 63 73
FARGO                      ND     OPERATING
  5  LAT 46-52 LON  96-46    ASSIGNED 34 40 56 83
GRAFTON                    ND     OPERATING
  7  LAT 48-24 LON  97-22    ASSIGNED 17 49 77
GRAND FORKS                ND     OPERATING
  6  LAT 47-54 LON  97- 1    ASSIGNED 33 39 58 69 75 81
HARVEY                     ND     OPERATING
  7  LAT 47-46 LON  99-55    ASSIGNED 22 48
JAMESTOWN                  ND     OPERATING
  7  LAT 46-54 LON  98-40    ASSIGNED 42 55
```

```
LISBON               ND    OPERATING
  7  LAT 46-26 LON  97-41   ASSIGNED 23 61
MINOT                ND    OPERATING
  6  LAT 48-13 LON 101-16   ASSIGNED 19 25 35 51 57 70 76 82
NEW ROCKFORD         ND    OPERATING
  7  LAT 47-40 LON  99- 8   ASSIGNED 20 64
PEMBINA              ND    OPERATING
  7  LAT 48-57 LON  97-13   ASSIGNED 19 25 36 45 57 68
RUGBY                ND    OPERATING
  7  LAT 48-21 LON 100- 0   ASSIGNED 38 54
VALLEY CITY          ND    OPERATING
  7  LAT 46-55 LON  98- 0   ASSIGNED 32 67
WAHPETON             ND    OPERATING
  7  LAT 46-16 LON  96-35   ASSIGNED 45 78
WILLISTON            ND    OPERATING
  7  LAT 48- 7 LON 103-38   ASSIGNED 34 23 58 64 75 81
AKRON                OHIO  OPERATING   49
  3  LAT 41- 4 LON  81-29   ASSIGNED 61 55
AKRON-KENT           OHIO  OPERATING   49
  3  LAT 41- 6 LON  81-26   ASSIGNED 61 55
ANSONIA              OHIO  OPERATING
  7  LAT 40-11 LON  84-39   ASSIGNED 81
ASHTABULA            OHIO  OPERATING   15
  6  LAT 41-53 LON  80-46   ASSIGNED 57
ATHENS               OHIO  OPERATING   20
  7  LAT 39-22 LON  82- 8   ASSIGNED 62
BELLEFONTAINE        OHIO  OPERATING
  7  LAT 40-24 LON  83-47   ASSIGNED 63
BOWLING GREEN        OHIO  OPERATING
  7  LAT 41-24 LON  83-38   ASSIGNED 70
BRYAN                OHIO  OPERATING
  7  LAT 41-27 LON  84-28   ASSIGNED 27 75
CAMBRIDGE            OHIO  OPERATING
  7  LAT 40- 1 LON  81-34   ASSIGNED 26
CANTON               OHIO  OPERATING
  4  LAT 40-49 LON  81-21   ASSIGNED 29
CHILLICOTHE          OHIO  OPERATING
  6  LAT 39-19 LON  82-57   ASSIGNED 56
CINCINNATI           OHIO  OPERATING   74 48
  2  LAT 39- 5 LON  84-29   ASSIGNED 54
CLEVELAND            OHIO  OPERATING   19
  1  LAT 41-29 LON  81-41   ASSIGNED 65 25
COLUMBUS             OHIO  OPERATING   34
  2  LAT 39-55 LON  83- 0   ASSIGNED 40
COSHOCTON            OHIO  OPERATING
  7  LAT 40-16 LON  81-52   ASSIGNED 71
DAYTON               OHIO  OPERATING   22
  2  LAT 39-44 LON  84-11   ASSIGNED 16
DAYTON-XENIA         OHIO  OPERATING   22
  3  LAT 39-43 LON  84- 3   ASSIGNED 16
DEFIANCE             OHIO  OPERATING
  7  LAT 41-16 LON  84-20   ASSIGNED 43
```

```
FINDLAY                     OHIO  OPERATING
  6  LAT 41- 4 LON  83-28     ASSIGNED 53
FREMONT                     OHIO  OPERATING
  7  LAT 41-19 LON  83- 5     ASSIGNED 59
GALLIPOLIS                  OHIO  OPERATING
  7  LAT 38-49 LON  82-14     ASSIGNED 72
HAMILTON-MIDDLETOWN         OHIO  OPERATING
  4  LAT 39-26 LON  84-31     ASSIGNED 65
HILLSBORO                   OHIO  OPERATING
  7  LAT 39-10 LON  83-39     ASSIGNED
LANCASTER                   OHIO  OPERATING
  6  LAT 39-41 LON  82-35     ASSIGNED 68
LIMA                        OHIO  OPERATING   35
  5  LAT 40-43 LON  84- 6     ASSIGNED 73
LORAIN                      OHIO  OPERATING
  4  LAT 41-26 LON  82- 8     ASSIGNED 31
MANSFIELD                   OHIO  OPERATING
  6  LAT 40-46 LON  82-31     ASSIGNED 36
MARIETTA                    OHIO  OPERATING
  7  LAT 39-23 LON  81-27     ASSIGNED 37
MARION                      OHIO  OPERATING
  6  LAT 40-36 LON  83- 6     ASSIGNED 17
MASSILLON                   OHIO  OPERATING
  6  LAT 40-49 LON  81-31     ASSIGNED 23 77
MOUNT VERNON                OHIO  OPERATING
  7  LAT 40-25 LON  82-29     ASSIGNED 58
NEWARK                      OHIO  OPERATING   28
  6  LAT 40- 4 LON  82-24     ASSIGNED 60
OXFORD                      OHIO  OPERATING   14
  7  LAT 39-31 LON  84-45     ASSIGNED
PIQUA                       OHIO  OPERATING
  7  LAT 40-10 LON  84-15     ASSIGNED 44
PORTSMOUTH                  OHIO  OPERATING
  6  LAT 38-44 LON  83- 0     ASSIGNED 30
SANDUSKY                    OHIO  OPERATING
  6  LAT 41-26 LON  82-40     ASSIGNED 42 82
SPRINGFIELD                 OHIO  OPERATING
  5  LAT 39-55 LON  83-47     ASSIGNED 52 76
TIFFIN                      OHIO  OPERATING
  7  LAT 41- 7 LON  83-11     ASSIGNED 47
TOLEDO                      OHIO  OPERATING   30
  3  LAT 41-39 LON  83-29     ASSIGNED 79
WARREN                      OHIO  OPERATING
  5  LAT 41-14 LON  80-54     ASSIGNED 67 83
YOUNGSTOWN                  OHIO  OPERATING   21 27 33 45
  3  LAT 41- 4 LON  80-39     ASSIGNED 73
ZANESVILLE                  OHIO  OPERATING   18
  6  LAT 39-55 LON  82- 1     ASSIGNED 50
ADA                         OKLA  OPERATING
  7  LAT 34-44 LON  96-42     ASSIGNED 50 80
ALTUS                       OKLA  OPERATING
  7  LAT 34-36 LON  99-20     ASSIGNED 36 63
```

```
ALVA                      OKLA  OPERATING
  7  LAT 36-46 LON  98-39    ASSIGNED 30 47 81
ANADARKO                  OKLA  OPERATING
  7  LAT 35- 3 LON  98-14    ASSIGNED 58 82
ARDMORE                   OKLA  OPERATING
  7  LAT 34-10 LON  97- 7    ASSIGNED 55 30
BARTLESVILLE              OKLA  OPERATING
  6  LAT 36-45 LON  95-57    ASSIGNED 62 78
BLACKWELL                 OKLA  OPERATING
  7  LAT 36-47 LON  97-17    ASSIGNED 51 19
CHICKASHA                 OKLA  OPERATING
  7  LAT 35- 2 LON  97-57    ASSIGNED 64
CLAREMORE                 OKLA  OPERATING
  7  LAT 36-16 LON  95-36    ASSIGNED 15 36
CLINTON                   OKLA  OPERATING
  7  LAT 35-30 LON  98-56    ASSIGNED 32 66
DUNCAN                    OKLA  OPERATING
  7  LAT 34-28 LON  97-57    ASSIGNED 39
DURANT                    OKLA  OPERATING
  7  LAT 33-57 LON  96-23    ASSIGNED 27 74
ELK CITY                  OKLA  OPERATING
  7  LAT 35-23 LON  99-22    ASSIGNED 15 26
EL RENO                   OKLA  OPERATING
  7  LAT 35-31 LON  97-57    ASSIGNED 56
ENID                      OKLA  OPERATING
  6  LAT 36-23 LON  97-53    ASSIGNED 21 27
FREDERICK                 OKLA  OPERATING
  7  LAT 34-22 LON  99- 0    ASSIGNED 44
GUTHRIE                   OKLA  OPERATING
  7  LAT 35-51 LON  97-24    ASSIGNED 48
GUYMON                    OKLA  OPERATING
  7  LAT 36-40 LON 101-28    ASSIGNED 20 42 64
HOBART                    OKLA  OPERATING
  7  LAT 35- 0 LON  99- 5    ASSIGNED 23 76
HOLDENVILLE               OKLA  OPERATING
  7  LAT 35- 3 LON  96-24    ASSIGNED 14
HUGO                      OKLA  OPERATING
  7  LAT 34- 0 LON  95-30    ASSIGNED 21 70
LAWTON                    OKLA  OPERATING
  5  LAT 34-34 LON  98-23    ASSIGNED 34 28 60
MCALESTER                 OKLA  OPERATING
  7  LAT 34-55 LON  95-44    ASSIGNED 47 83
MIAMI                     OKLA  OPERATING
  7  LAT 36-52 LON  94-50    ASSIGNED 58
MUSKOGEE                  OKLA  OPERATING
  6  LAT 35-43 LON  95-21    ASSIGNED 66 45
NORMAN                    OKLA  OPERATING
  6  LAT 35-12 LON  97-25    ASSIGNED 31 37
OKLAHOMA CITY             OKLA  OPERATING   25
  3  LAT 35-27 LON  97-30    ASSIGNED 77
OKMULGEE                  OKLA  OPERATING
  7  LAT 35-35 LON  95-57    ASSIGNED 26 75
```

```
PAULS VALLEY            OKLA  OPERATING
 -7  LAT 34-42 LON  97-13    ASSIGNED 61
PONCA CITY              OKLA  OPERATING
  7  LAT 36-42 LON  97- 5    ASSIGNED 40 73
POTEAU                  OKLA  OPERATING
  7  LAT 35- 3 LON  94-35    ASSIGNED 57
PRYOR CREEK             OKLA  OPERATING
  7  LAT 36-15 LON  95-17    ASSIGNED 54
SAPULPA                 OKLA  OPERATING
  7  LAT 36- 0 LON  96- 4    ASSIGNED 42
SEMINOLE                OKLA  OPERATING
  7  LAT 35-12 LON  96-38    ASSIGNED 59
SHAWNEE                 OKLA  OPERATING
  7  LAT 35-18 LON  96-54    ASSIGNED 53
STILLWATER              OKLA  OPERATING
  7  LAT 36- 6 LON  97- 2    ASSIGNED 29 69
TULSA                   OKLA  OPERATING   23
  3  LAT 36- 8 LON  95-58    ASSIGNED 17 72
VINITA                  OKLA  OPERATING
  7  LAT 36-36 LON  95- 7    ASSIGNED 28
WOODWARD                OKLA  OPERATING
  7  LAT 36-25 LON  99-24    ASSIGNED 35 65 78
ALBANY                  ORE   OPERATING
  7  LAT 44-37 LON 123- 5    ASSIGNED 55 72
ASHLAND                 ORE   OPERATING
  7  LAT 42-10 LON 122-41    ASSIGNED 14 41 78
ASTORIA                 ORE   OPERATING
  7  LAT 46- 9 LON 123-48    ASSIGNED 30 41 70
BAKER                   ORE   OPERATING
  7  LAT 44-46 LON 117-49    ASSIGNED 37 48 57 70 79
BEND                    ORE   OPERATING
  7  LAT 44- 2 LON 121-17    ASSIGNED 15 34 40 53 59 65 71 81
BROOKINGS               ORE   OPERATING
  7  LAT 42- 2 LON 124-16    ASSIGNED 18 24 34 55 61 71 77 83
BURNS                   ORE   OPERATING
  7  LAT 43-34 LON 119- 3    ASSIGNED 16 27 33 43 49 55 67 76
COOS BAY                ORE   OPERATING
  7  LAT 43-19 LON 124-19    ASSIGNED 38 44 68 79
COQUILLE                ORE   OPERATING
  7  LAT 43- 9 LON 124-10    ASSIGNED 32 50
CORVALLIS               ORE   OPERATING
  7  LAT 44-33 LON 123-16    ASSIGNED 49 82
EUGENE                  ORE   OPERATING
  5  LAT 44- 2 LON 123- 5    ASSIGNED 26 20 60
GRANTS PASS             ORE   OPERATING
  7  LAT 42-26 LON 123-19    ASSIGNED 30 52
KLAMATH FALLS           ORE   OPERATING
  7  LAT 42-11 LON 121-47    ASSIGNED 17 46 66
LA GRANDE               ORE   OPERATING
  7  LAT 45-19 LON 118- 6    ASSIGNED 17 39 74 83
LEBANON                 ORE   OPERATING
  7  LAT 44-30 LON 122-54    ASSIGNED 43
```

```
MCMINNVILLE          ORE   OPERATING
  7  LAT 45-12 LON 123-10   ASSIGNED 46
MEDFORD              ORE   OPERATING
  7  LAT 42-19 LON 122-42   ASSIGNED 25 54
NORTH BEND           ORE   OPERATING
  7  LAT 43-22 LON 124-14   ASSIGNED 16 56
PENDLETON            ORE   OPERATING
  7  LAT 45-39 LON 118-47   ASSIGNED 28 61
PORTLAND             ORE   OPERATING   27
  2  LAT 45-29 LON 122-36   ASSIGNED 21 63 74 83
ROSEBURG             ORE   OPERATING
  7  LAT 43-10 LON 123-19   ASSIGNED 28 48 73
SALEM                ORE   OPERATING
  6  LAT 44-55 LON 123- 0   ASSIGNED 24 66 18
SPRINGFIELD          ORE   OPERATING
  7  LAT 44- 0 LON 123- 0   ASSIGNED 37 76
THE DALLES           ORE   OPERATING
  7  LAT 45-34 LON 121-10   ASSIGNED 32 51 64 73
ALLENTOWN             PA   OPERATING   67
  3  LAT 40-35 LON  75-29   ASSIGNED 39
ALTOONA               PA   OPERATING
  5  LAT 40-31 LON  78-25   ASSIGNED 25 36 48
BETHLEHEM             PA   OPERATING   51
  5  LAT 40-38 LON  75-22   ASSIGNED
BLOOMSBGBERWICK       PA   OPERATING
  7  LAT 41- 1 LON  76-20   ASSIGNED
BRADFORD              PA   OPERATING
  7  LAT 41-57 LON  78-40   ASSIGNED 80
BURLNTONTWANPA        PA   OPERATING
  7  LAT 41-49 LON  76-30   ASSIGNED 62 81
BUTLER                PA   OPERATING
  7  LAT 40-51 LON  79-53   ASSIGNED 43
CHAMBERSBURG          PA   OPERATING
  7  LAT 39-56 LON  77-40   ASSIGNED 46
DU BOIS               PA   OPERATING
  7  LAT 41- 8 LON  78-45   ASSIGNED 31 72 82
EASTON                PA   OPERATING   57
  6  LAT 40-41 LON  75-10   ASSIGNED
EMPORIUM              PA   OPERATING
  7  LAT 41-27 LON  78-13   ASSIGNED 42 20
ERIE                  PA   OPERATING   66 35
  4  LAT 42- 5 LON  80- 3   ASSIGNED 41 75
HARRISBURG            PA   OPERATING   21 71 27
  4  LAT 40-15 LON  76-49   ASSIGNED 33
HAZELTON              PA   OPERATING
  6  LAT 40-57 LON  75-57   ASSIGNED 63
JENKINTOWN            PA   OPERATING   29
  7  LAT 40- 5 LON  75- 7   ASSIGNED
JOHNSTOWN             PA   OPERATING   19 56
  5  LAT 40-21 LON  78-51   ASSIGNED 74
LANCASTER             PA   OPERATING
  5  LAT 40- 2 LON  76-20   ASSIGNED 55
```

```
LANCASTERYORK         PA    OPERATING   49 43
  4  LAT 40- 0 LON  76-30    ASSIGNED 55
LEBANON               PA    OPERATING   15
  6  LAT 40-19 LON  76-24    ASSIGNED
LEWISTOWN             PA    OPERATING
  7  LAT 40-36 LON  77-29    ASSIGNED 75
LOCK HAVEN            PA    OPERATING   32
  7  LAT 41- 5 LON  77-36    ASSIGNED
MEADVILLE             PA    OPERATING
  7  LAT 41-39 LON  80- 9    ASSIGNED 62
OIL CITY              PA    OPERATING   64
  7  LAT 41-25 LON  79-42    ASSIGNED
PHILADELPHIA          PA    OPERATING   23 35 17
  1  LAT 40- 0 LON  75- 9    ASSIGNED 29
PITTSBURG             PA    OPERATING   53 22 16
  1  LAT 40-26 LON  79-56    ASSIGNED 76
POTTSVILLE            PA    OPERATING
  7  LAT 40-41 LON  76-11    ASSIGNED
READING               PA    OPERATING   61
  4  LAT 40-21 LON  75-55    ASSIGNED
SCRANTON              PA    OPERATING   22 16 44
  4  LAT 41-23 LON  75-41    ASSIGNED
SHAMOKIN              PA    OPERATING
  7  LAT 40-46 LON  76-32    ASSIGNED 65
SHARON                PA    OPERATING
  6  LAT 41-13 LON  80-29    ASSIGNED 39
SHINGLEHOUSE          PA    OPERATING
  7  LAT 41-57 LON  78-10    ASSIGNED 60 26
STATE COLLEGE         PA    OPERATING
  7  LAT 40-47 LON  77-55    ASSIGNED 69
SUNBURY               PA    OPERATING
  7  LAT 40-51 LON  76-46    ASSIGNED 38
UNIONTOWN             PA    OPERATING
  7  LAT 39-54 LON  79-42    ASSIGNED 14
WARREN                PA    OPERATING
  7  LAT 41-49 LON  79- 6    ASSIGNED 64
WASHINGTON            PA    OPERATING
  7  LAT 40- 9 LON  80-19    ASSIGNED 63
WILKES-BARRE          PA    OPERATING   28
  4  LAT 41-13 LON  75-51    ASSIGNED
WILLIAMSPORT          PA    OPERATING
  6  LAT 41-12 LON  77- 1    ASSIGNED 73
YORK                  PA    OPERATING   49 43
  4  LAT 39-57 LON  76-41    ASSIGNED
PROVIDENCE            RI    OPERATING   16 36
  2  LAT 41-49 LON  71-24    ASSIGNED
AIKEN                 SC    OPERATING
  7  LAT 33-33 LON  81-43    ASSIGNED 54
ANDERSON              SC    OPERATING   40
  6  LAT 34-29 LON  82-38    ASSIGNED 58
BAMBERGDENMARKBARNWL  SC    OPERATING
  7  LAT 33-15 LON  81-10    ASSIGNED 50 72
```

```
BENNETTSVILLE        SC    OPERATING
  7  LAT 34-35 LON  79-39    ASSIGNED 71
CAMDEN               SC    OPERATING
  7  LAT 34-14 LON  80-36    ASSIGNED 14
CHARLESTON           SC    OPERATING
  4  LAT 32-46 LON  79-56    ASSIGNED 17 30 39 48 69 78
CLEMSON              SC    OPERATING
  7  LAT 34-40 LON  82-49    ASSIGNED 68
COLUMBIA             SC    OPERATING   25 19
  4  LAT 34- 0 LON  81- 1    ASSIGNED 31
CONWAY               SC    OPERATING
  7  LAT 33-49 LON  79- 2    ASSIGNED 23 68
FLORENCE             SC    OPERATING
  6  LAT 34-10 LON  79-45    ASSIGNED 60
GEORGETOWN           SC    OPERATING
  7  LAT 33-22 LON  79-17    ASSIGNED 27 51
GREENVILLE           SC    OPERATING
  4  LAT 34-50 LON  82-23    ASSIGNED 23 29
GREENWOOD            SC    OPERATING
  7  LAT 34-14 LON  82-11    ASSIGNED 21
LAKE CITY            SC    OPERATING
  7  LAT 33-51 LON  79-43    ASSIGNED 55 81
LANCASTER            SC    OPERATING
  7  LAT 34-41 LON  80-45    ASSIGNED 67
LAURENS              SC    OPERATING
  7  LAT 34-28 LON  82- 1    ASSIGNED 45
MARION               SC    OPERATING
  7  LAT 34- 9 LON  79-12    ASSIGNED 43
NEWBERRY             SC    OPERATING
  7  LAT 34-15 LON  81-39    ASSIGNED 70
ORANGEBURG           SC    OPERATING
  7  LAT 33-29 LON  80-49    ASSIGNED 44
ROCK HILL            SC    OPERATING
  6  LAT 34-54 LON  81- 1    ASSIGNED 61 83
SPARTANBURG          SC    OPERATING
  6  LAT 34-56 LON  81-56    ASSIGNED 17 74
SUMTER               SC    OPERATING
  7  LAT 33-55 LON  80-19    ASSIGNED 47
UNION                SC    OPERATING
  7  LAT 34-41 LON  81-39    ASSIGNED 65
ABERDEEN             SD    OPERATING
  7  LAT 45-27 LON  98-28    ASSIGNED 17 41 57 82
BELLE FOURCHE        SD    OPERATING
  7  LAT 44-38 LON 103-39    ASSIGNED 23 44
BROOKINGS            SD    OPERATING
  7  LAT 44-17 LON  96-46    ASSIGNED 25 68
FLORENCE             SD    OPERATING
  7  LAT 45- 7 LON  97-24    ASSIGNED 47 69
FREEMAN              SD    OPERATING
  7  LAT 43-21 LON  97-23    ASSIGNED 50 73
HOT SPRINGS          SD    OPERATING
  7  LAT 43-25 LON 103-29    ASSIGNED 17 46 52
```

```
HURON                   SD    OPERATING
  7  LAT 44-20 LON  98-11      ASSIGNED 15 37 43 59
LEAD                    SD    OPERATING   26
  7  LAT 44-20 LON 103-45      ASSIGNED 26 73
MADISON                 SD    OPERATING
  7  LAT 44- 0 LON  97- 5      ASSIGNED 46
MITCHELL                SD    OPERATING
  7  LAT 43-42 LON  98- 0      ASSIGNED 20 67
MOBRIDGE                SD    OPERATING
  7  LAT 45-32 LON 100-25      ASSIGNED 27 14 33 46 52 58 75 81
PIERRE                  SD    OPERATING
  7  LAT 44-21 LON 100-19      ASSIGNED 22 28 38 49 55 83
RAPID CITY              SD    OPERATING
  6  LAT 44- 4 LON 103-12      ASSIGNED 15 36 64 70 76 82
RELIANCE                SD    OPERATING
  7  LAT 43-56 LON  99-35      ASSIGNED 16 26 61 71 77
SIOUX FALLS             SD    OPERATING
  5  LAT 43-32 LON  96-41      ASSIGNED 38 44 62
STURGIS                 SD    OPERATING
  7  LAT 44-24 LON 103-29      ASSIGNED 20 54
VERMILLION              SD    OPERATING
  7  LAT 42-47 LON  96-54      ASSIGNED 41
WATERTOWN               SD    OPERATING
  7  LAT 44-54 LON  97- 4      ASSIGNED 35 79
WINNER                  SD    OPERATING
  7  LAT 43-21 LON  99-50      ASSIGNED 18 45
YANKTON                 SD    OPERATING
  7  LAT 42-52 LON  97-22      ASSIGNED 17
ATHENS                 TENN   OPERATING
  7  LAT 35-35 LON  84-36      ASSIGNED 14
BRISTOLTENNBRISTOLVA   TENN   OPERATING
  6  LAT 36-34 LON  82- 9      ASSIGNED 75
CHATTANOOGA            TENN   OPERATING
  4  LAT 35- 1 LON  85-17      ASSIGNED 43 49 55
CLARKSVILLE            TENN   OPERATING
  7  LAT 36-31 LON  87-21      ASSIGNED 53
CLEVELAND              TENN   OPERATING
  7  LAT 35- 7 LON  84-51      ASSIGNED 38
COLUMBIA               TENN   OPERATING
  7  LAT 35-36 LON  87- 2      ASSIGNED 39
COOKEVILLE             TENN   OPERATING
  7  LAT 36- 8 LON  85-30      ASSIGNED 24 69
COVINGTON              TENN   OPERATING
  7  LAT 35-33 LON  89-39      ASSIGNED 19
CROSSVILLE             TENN   OPERATING
  7  LAT 35-56 LON  85- 1      ASSIGNED 77
DYERSBURG              TENN   OPERATING
  7  LAT 36- 1 LON  89-23      ASSIGNED 46
ELIZABETHTON           TENN   OPERATING
  7  LAT 36-19 LON  82-11      ASSIGNED 22
FAYETTEVILLE           TENN   OPERATING
  7  LAT 35- 9 LON  86-31      ASSIGNED 27
```

```
GALLATIN              TENN  OPERATING
  7  LAT 36-23 LON  86-25    ASSIGNED 48
HARRIMAN              TENN  OPERATING
  7  LAT 35-55 LON  84-32    ASSIGNED 67
JACKSON               TENN  OPERATING
  6  LAT 35-36 LON  88-49    ASSIGNED 16 35 77
JOHNSON CITY          TENN  OPERATING
  6  LAT 36-17 LON  82-21    ASSIGNED 34
KINGSPORT             TENN  OPERATING
  6  LAT 36-32 LON  82-35    ASSIGNED 28
KNOXVILLE             TENN  OPERATING   26
  4  LAT 35-57 LON  83-56    ASSIGNED 20 32
LAWRENCEBURG          TENN  OPERATING
  7  LAT 35-13 LON  87-19    ASSIGNED 50
LEBANON               TENN  OPERATING
  7  LAT 36-11 LON  86-16    ASSIGNED 58
LEXINGTON             TENN  OPERATING
  7  LAT 35-36 LON  88-24    ASSIGNED 29 59
MCMINNVILLE           TENN  OPERATING
  7  LAT 35-40 LON  85-46    ASSIGNED 46
MARYVILLE             TENN  OPERATING
  7  LAT 35-34 LON  83-57    ASSIGNED 51
MEMPHIS               TENN  OPERATING
  2  LAT 35- 6 LON  90- 4    ASSIGNED 42 48 70
MORRISTOWN            TENN  OPERATING
  7  LAT 36-11 LON  83-17    ASSIGNED 54
NASHVILLE             TENN  OPERATING
  3  LAT 36- 9 LON  86-48    ASSIGNED 30 36
OAK RIDGE             TENN  OPERATING
  6  LAT 36- 2 LON  84-12    ASSIGNED 79
PARIS                 TENN  OPERATING
  7  LAT 36-16 LON  88-19    ASSIGNED 51
PULASKI               TENN  OPERATING
  7  LAT 35-11 LON  87- 2    ASSIGNED 66
SHELBYVILLE           TENN  OPERATING
  7  LAT 35-29 LON  86-27    ASSIGNED 56
SNEEDVILLE            TENN  OPERATING
  7  LAT 36-31 LON  83-12    ASSIGNED 44
SPRINGFIELD           TENN  OPERATING
  7  LAT 36-29 LON  86-52    ASSIGNED 42
TULLAHOMA             TENN  OPERATING
  7  LAT 35-21 LON  86-11    ASSIGNED 68
UNION CITY            TENN  OPERATING
  7  LAT 36-24 LON  89- 2    ASSIGNED 55
ABILENE               TEX   OPERATING
  5  LAT 32-25 LON  99-44    ASSIGNED 33 46 55 68
ALICE                 TEX   OPERATING
  7  LAT 27-44 LON  98- 3    ASSIGNED 34 56
ALPINE                TEX   OPERATING
  7  LAT 30-20 LON 103-39    ASSIGNED 25 38 58 68 77
AMARILLO              TEX   OPERATING
  4  LAT 35-12 LON 101-48    ASSIGNED 37 43 49 55 71 77
```

```
ATHENS                     TEX    OPERATING
  7  LAT 32-12 LON  95-50   ASSIGNED 25 77
AUSTIN                     TEX    OPERATING   67 24
  4  LAT 30-15 LON  97-42   ASSIGNED 18
BALLINGER                  TEX    OPERATING
  7  LAT 31-44 LON  99-56   ASSIGNED 25 59
BAY CITY                   TEX    OPERATING
  7  LAT 28-58 LON  95-57   ASSIGNED 33 45
BEAUMONT-PORTARTHUR        TEX    OPERATING
  4  LAT 29-58 LON  94- 1   ASSIGNED 31 37 77 83
BEEVILLE                   TEX    OPERATING
  7  LAT 28-24 LON  97-42   ASSIGNED 38 59 83
BIG SPRING                 TEX    OPERATING
  6  LAT 32-14 LON 101-27   ASSIGNED 34 47
BONHAM                     TEX    OPERATING
  7  LAT 33-34 LON  96-10   ASSIGNED 43
BOQUILLAS                  TEX    OPERATING
  7  LAT 29-11 LON 102-55   ASSIGNED 15 24 34 40 46 56 62 72 78
BORGER                     TEX    OPERATING
  7  LAT 35-38 LON 101-21   ASSIGNED 33 39
BRADY                      TEX    OPERATING
  7  LAT 31- 7 LON  99-20   ASSIGNED 15 61
BRECKENRIDGE               TEX    OPERATING
  7  LAT 32-44 LON  98-53   ASSIGNED 14 35
BRENHAM                    TEX    OPERATING
  7  LAT 30- 9 LON  96-22   ASSIGNED 52 26
BROWNFIELD                 TEX    OPERATING
  7  LAT 33-10 LON 102-14   ASSIGNED 15 50
BROWNSVILLE                TEX    OPERATING
  6  LAT 25-54 LON  97-29   ASSIGNED 26 44
BROWNSHARLINGWESLACO       TEX    OPERATING
  4  LAT 26- 4 LON  97-43   ASSIGNED 23 17 54 76
BROWNWOOD                  TEX    OPERATING
  7  LAT 31-42 LON  98-58   ASSIGNED 19 56 78
BRYAN                      TEX    OPERATING
  6  LAT 30-39 LON  96-21   ASSIGNED 54 74
BRYAN-COLLEGESTATION       TEX    OPERATING
  7  LAT 30-38 LON  96-21   ASSIGNED 48 80
CENTER                     TEX    OPERATING
  7  LAT 31-48 LON  94-10   ASSIGNED 67 79
CHILDRESS                  TEX    OPERATING
  7  LAT 34-24 LON 100-11   ASSIGNED 40 67 80
CLARKSVILLE                TEX    OPERATING
  7  LAT 33-35 LON  95- 0   ASSIGNED 60 76 82
CLEBURNE                   TEX    OPERATING
  7  LAT 32-20 LON  97-22   ASSIGNED 57
COLEMAN                    TEX    OPERATING
  7  LAT 31-47 LON  99-25   ASSIGNED 21 65
COLORADO CITY              TEX    OPERATING
  7  LAT 32-33 LON 100-50   ASSIGNED 52 64
COLUMBUS                   TEX    OPERATING
  7  LAT 29-42 LON  96-32   ASSIGNED 21
```

```
CONROE                TEX   OPERATING
  7  LAT 30-17 LON  95-27    ASSIGNED 20
CORPUS CHRISTI        TEX   OPERATING   22
  4  LAT 27-47 LON  97-23    ASSIGNED 43 16 32 61 79
CORSICANA             TEX   OPERATING
  7  LAT 32- 5 LON  96-27    ASSIGNED 47
CROCKETT              TEX   OPERATING
  7  LAT 31-18 LON  95-27    ASSIGNED 56
CRYSTAL CITY          TEX   OPERATING
  7  LAT 28-39 LON  99-49    ASSIGNED 44 28 66 76
CUERO                 TEX   OPERATING
  7  LAT 29- 4 LON  97-17    ASSIGNED 25 46
DALHART               TEX   OPERATING
  4  LAT 36- 3 LON 102-31    ASSIGNED 16 36 47 53 63 69 75 81
DALLAS                TEX   OPERATING   29
  2  LAT 32-46 LON  96-47    ASSIGNED 23
DEL RIO               TEX   OPERATING
  7  LAT 29-20 LON 100-53    ASSIGNED 16 52 32 69 80
DENISON               TEX   OPERATING
  7  LAT 33-44 LON  96-31    ASSIGNED 52
DENTON                TEX   OPERATING
  6  LAT 33-10 LON  97- 7    ASSIGNED 17 73
EAGLE PASS            TEX   OPERATING
  7  LAT 28-41 LON 100-29    ASSIGNED 22 64 74
EDINBURG              TEX   OPERATING
  7  LAT 26-17 LON  98- 9    ASSIGNED 60 36
EL CAMPO              TEX   OPERATING
  7  LAT 29-11 LON  96-16    ASSIGNED 27 68
EL PASO               TEX   OPERATING   26
  3  LAT 31-45 LON 106-27    ASSIGNED 38 50 62 20 44 68
FALFURRIAS            TEX   OPERATING
  7  LAT 27-12 LON  98- 8    ASSIGNED 52 24
FLOYDADA              TEX   OPERATING
  7  LAT 33-58 LON 101-18    ASSIGNED 45 57
FORT STOCKTON         TEX   OPERATING
  7  LAT 30-53 LON 102-52    ASSIGNED 22 33 60 66
FORT WORTH            TEX   OPERATING
  2  LAT 32-44 LON  97-17    ASSIGNED 20 26 75 81
GAINESVILLE           TEX   OPERATING
  7  LAT 33-36 LON  97- 7    ASSIGNED 49
GALVESTON             TEX   OPERATING
  4  LAT 29-18 LON  94-48    ASSIGNED 35 41 47 57 81
GONZALES              TEX   OPERATING
  7  LAT 29-30 LON  97-26    ASSIGNED 64 30
GRAHAM                TEX   OPERATING
  7  LAT 33- 7 LON  98-34    ASSIGNED 54 79
GREENVILLE            TEX   OPERATING
  7  LAT 33- 8 LON  96- 6    ASSIGNED 69 78
HASKELL-STAMFORD      TEX   OPERATING
  7  LAT 33- 2 LON  99-46    ASSIGNED 27 74
HEBBRONVILLE          TEX   OPERATING
  7  LAT 27-17 LON  98-40    ASSIGNED 58 69 80
```

```
HENDERSON             TEX   OPERATING
  7  LAT 32- 8 LON  94-48    ASSIGNED 42
HEREFORD              TEX   OPERATING
  7  LAT 34-46 LON 102-24    ASSIGNED 19 61 83
HILLSBORO             TEX   OPERATING
  7  LAT 32- 0 LON  97- 6    ASSIGNED 63
HOUSTON               TEX   OPERATING   39 23
  1  LAT 29-44 LON  95-21    ASSIGNED 29 51 69 78
HUNTSVILLE            TEX   OPERATING
  7  LAT 30-43 LON  95-33    ASSIGNED 15
JACKSONVILLE          TEX   OPERATING
  7  LAT 31-57 LON  95-17    ASSIGNED 36
JASPER                TEX   OPERATING
  7  LAT 30-54 LON  93-57    ASSIGNED 49
KERMIT                TEX   OPERATING
  7  LAT 31-50 LON 103- 5    ASSIGNED 14 65
KERRVILLE             TEX   OPERATING
  7  LAT 30- 1 LON  99- 6    ASSIGNED 37 53 70
KILGORE               TEX   OPERATING
  7  LAT 32-22 LON  94-52    ASSIGNED 59
KINGSVILLE            TEX   OPERATING
  6  LAT 27-31 LON  97-51    ASSIGNED 40 77
LAMESA                TEX   OPERATING
  7  LAT 32-43 LON 101-54    ASSIGNED 28 72
LAMPASAS              TEX   OPERATING
  7  LAT 31- 3 LON  98- 9    ASSIGNED 40 69
LAREDO                TEX   OPERATING
  5  LAT 27-29 LON  99-29    ASSIGNED 27 39 15 21 45 67 78
LEVELLAND             TEX   OPERATING
  7  LAT 33-34 LON 102-22    ASSIGNED 38 70
LITTLEFIELD           TEX   OPERATING
  7  LAT 33-55 LON 102-17    ASSIGNED 32 79
LONGVIEW              TEX   OPERATING
  6  LAT 32-28 LON  94-44    ASSIGNED 32 38
LUBBLOCK              TEX   OPERATING   20
  4  LAT 33-34 LON 101-50    ASSIGNED 26 48 54 76 82
LUFKIN                TEX   OPERATING
  7  LAT 31-20 LON  94-44    ASSIGNED 46
MCALLEN               TEX   OPERATING
  6  LAT 26-11 LON  98-13    ASSIGNED 20 14
MCKINNEY              TEX   OPERATING
  7  LAT 33- 9 LON  96-20    ASSIGNED 65
MARFA                 TEX   OPERATING
  7  LAT 30-17 LON 104- 1    ASSIGNED 19 47
MARSHALL              TEX   OPERATING
  7  LAT 32-32 LON  94-20    ASSIGNED 16
MERCEDES              TEX   OPERATING
  7  LAT 26- 7 LON  97-54    ASSIGNED 66 82
MEXIA                 TEX   OPERATING
  7  LAT 31-40 LON  96-27    ASSIGNED 50 66
MIDLAND               TEX   OPERATING   18
  5  LAT 32- 0 LON 102- 3    ASSIGNED 63 69 81
```

```
MINERAL WELLS               TEX   OPERATING
  7  LAT 32-47 LON  98- 6    ASSIGNED 38 83
MISSION                     TEX   OPERATING
  7  LAT 26-12 LON  98-19    ASSIGNED 70 42
MONAHANS                    TEX   OPERATING
  7  LAT 31-34 LON 102-50    ASSIGNED 35 41
MOUNT PLEASANT              TEX   OPERATING
  7  LAT 33- 7 LON  95- 0    ASSIGNED 35
NACOGDOCHES                 TEX   OPERATING   19
  7  LAT 31-36 LON  94-39    ASSIGNED 40
NEW BRAUNFELS               TEX   OPERATING
  7  LAT 29-41 LON  98- 7    ASSIGNED 62
ODESSA                      TEX   OPERATING   24
  5  LAT 31-50 LON 102-20    ASSIGNED 44 53
ORANGE                      TEX   OPERATING
  6  LAT 30- 5 LON  93-42    ASSIGNED 43 66
PAMPA                       TEX   OPERATING
  6  LAT 35-32 LON 100-54    ASSIGNED 17 68
PARIS                       TEX   OPERATING
  7  LAT 33-38 LON  95-32    ASSIGNED 33
PEARSALL                    TEX   OPERATING
  7  LAT 28-52 LON  99- 5    ASSIGNED 31 63
PECOS                       TEX   OPERATING
  7  LAT 31-25 LON 103-29    ASSIGNED 16 57
PERRYTON                    TEX   OPERATING
  7  LAT 36-23 LON 100-47    ASSIGNED 16 22
PLAINVIEW                   TEX   OPERATING
  7  LAT 34-11 LON 101-40    ASSIGNED 29 73
PRESIDIO                    TEX   OPERATING
  7  LAT 29-34 LON 104-22    ASSIGNED 21 27 37 49 55 67 76
QUANAH                      TEX   OPERATING
  7  LAT 34-16 LON  99-43    ASSIGNED 42
RAYMONDVILLE                TEX   OPERATING
  7  LAT 26-29 LON  97-44    ASSIGNED 64
RICHARDSON                  TEX   OPERATING   23
  7  LAT 32-56 LON  96-43    ASSIGNED
ROSENBERG                   TEX   OPERATING
  7  LAT 29-32 LON  95-47    ASSIGNED 17
SAN ANGELO                  TEX   OPERATING
  5  LAT 31-26 LON 100-25    ASSIGNED 17 23 42 71
SAN ANTONIO                 TEX   OPERATING   41
  2  LAT 29-24 LON  98-29    ASSIGNED 35 72 81
SAN BENITO                  TEX   OPERATING
  7  LAT 26- 6 LON  97-36    ASSIGNED 48
SAN MARCOS                  TEX   OPERATING
  7  LAT 29-52 LON  97-54    ASSIGNED 75
SEGUIN                      TEX   OPERATING
  7  LAT 29-34 LON  97-57    ASSIGNED 14
SEYMOUR                     TEX   OPERATING
  7  LAT 33-34 LON  99-14    ASSIGNED 24
SHERMAN                     TEX   OPERATING
  6  LAT 33-37 LON  96-35    ASSIGNED 46
```

```
SNYDER               TEX  OPERATING
  7 LAT 32-42 LON 100-54   ASSIGNED 30 75
SONORA               TEX  OPERATING
  7 LAT 30-32 LON 100-39   ASSIGNED 26 36 45 73 79
STEPHENVILLE         TEX  OPERATING
  7 LAT 32-12 LON  98-10   ASSIGNED 32
SULPHUR SPRINGS      TEX  OPERATING
  7 LAT 33- 7 LON  95-35   ASSIGNED 41
SWEETWATER           TEX  OPERATING
  7 LAT 32-27 LON 100-24   ASSIGNED 43 77
TAYLOR               TEX  OPERATING
  7 LAT 30-34 LON  97-24   ASSIGNED 58 42
TEMPLE               TEX  OPERATING
  6 LAT 31- 4 LON  97-19   ASSIGNED 16 22 71
TERRELL              TEX  OPERATING
  7 LAT 32-41 LON  96-16   ASSIGNED 53
TEXARKANA            TEX  OPERATING
  5 LAT 33-24 LON  94- 2   ASSIGNED 24 18 37 54
TYLER                TEX  OPERATING
  5 LAT 32-20 LON  95-17   ASSIGNED 61 72 14
UVALDE               TEX  OPERATING
  7 LAT 29-12 LON  99-47   ASSIGNED 20 33 82
VERNON               TEX  OPERATING
  7 LAT 34- 8 LON  99-15   ASSIGNED 18
VICTORIA             TEX  OPERATING
  7 LAT 28-46 LON  97- 0   ASSIGNED 19 55
WACO                 TEX  OPERATING
  4 LAT 31-34 LON  97- 6   ASSIGNED 34 28 76 82
WAXAHACHIE           TEX  OPERATING
  7 LAT 32-22 LON  96-49   ASSIGNED 45
WEATHERFORD          TEX  OPERATING
  7 LAT 32-44 LON  97-48   ASSIGNED 51
WICHITA FALLS        TEX  OPERATING
  4 LAT 33-53 LON  98-28   ASSIGNED 22 16 62 71
ZAPATA               TEX  OPERATING
  7 LAT 26-51 LON  99-18   ASSIGNED 49 18
BEAVER              UTAH  OPERATING
  7 LAT 38-16 LON 112-39   ASSIGNED 24 34 46 52 58 64 70 76 82
BRIGHAM             UTAH  OPERATING
  7 LAT 41-30 LON 112- 0   ASSIGNED 36
CEDAR CITY          UTAH  OPERATING
  7 LAT 37-40 LON 113- 2   ASSIGNED 14 26 42 54
EPHRAIM-MANTI       UTAH  OPERATING
  7 LAT 39-18 LON 111-36   ASSIGNED 19 25 50 56 67 77
ESCALANTE           UTAH  OPERATING
  7 LAT 37-46 LON 111-36   ASSIGNED 15 21 33 74 80
LOGAN               UTAH  OPERATING
  7 LAT 41-44 LON 111-50   ASSIGNED 30 46
MOAB                UTAH  OPERATING
  7 LAT 38-32 LON 109-30   ASSIGNED 23 32 45 57 63 79
MONTICELLO          UTAH  OPERATING
  7 LAT 37-52 LON 109-20   ASSIGNED 14 36 54 66
```

```
OGDEN                     UTAH  OPERATING   18
  4  LAT 41-13 LON 111-58    ASSIGNED 24 52 62
PRICE                     UTAH  OPERATING
  7  LAT 39-36 LON 110-46    ASSIGNED 17 38
PROVO                     UTAH  OPERATING
  6  LAT 40-13 LON 111-39    ASSIGNED 22 28 48 73 83
RANDOLPH                  UTAH  OPERATING
  7  LAT 41-39 LON 111- 0    ASSIGNED 49 58
RICHFIELD                 UTAH  OPERATING
  7  LAT 38-45 LON 112- 5    ASSIGNED 16 29
ST GEORGE                 UTAH  OPERATING
  7  LAT 37- 6 LON 113-33    ASSIGNED 18 30 36 59 65 71 77 83
SALT LAKE CITY            UTAH  OPERATING
  3  LAT 40-44 LON 111-50    ASSIGNED 20 26 54 65 71 81
TOOELE                    UTAH  OPERATING
  7  LAT 40-30 LON 112-18    ASSIGNED 44
VERNAL                    UTAH  OPERATING
  7  LAT 40-26 LON 109-34    ASSIGNED 15 27 33 55 64 76 82
BENNINGTON                 VT   OPERATING
  7  LAT 42-51 LON  73- 9    ASSIGNED 69
BRATTLEBORO                VT   OPERATING
  7  LAT 42-49 LON  72-34    ASSIGNED 77
BURLINGTON                 VT   OPERATING
  6  LAT 44-29 LON  73-14    ASSIGNED 16 22
MONTPELIER                 VT   OPERATING
  7  LAT 44-15 LON  72-35    ASSIGNED 57 73
NEWPORT                    VT   OPERATING
  7  LAT 44-56 LON  72-15    ASSIGNED 46 62
RUTLAND                    VT   OPERATING
  7  LAT 43-34 LON  73- 0    ASSIGNED 49
ST ALBANS                  VT   OPERATING
  7  LAT 44-48 LON  73- 7    ASSIGNED 34 78
ST JOHNSBURY               VT   OPERATING
  7  LAT 44-24 LON  72- 1    ASSIGNED 30
WINDSOR                    VT   OPERATING
  7  LAT 43-29 LON  72-24    ASSIGNED 26
BLACKSBURG                 VA   OPERATING
  7  LAT 37-13 LON  80-24    ASSIGNED 60 71
CHARLOTTESVILLE            VA   OPERATING
  6  LAT 38- 1 LON  78-28    ASSIGNED 64 45
COVINGTON                  VA   OPERATING
  7  LAT 37-47 LON  79-58    ASSIGNED 44
DANVILLE                   VA   OPERATING   24
  6  LAT 36-35 LON  79-22    ASSIGNED 68
EMPORIA                    VA   OPERATING
  7  LAT 36-40 LON  77-32    ASSIGNED 25
FARMVILLE                  VA   OPERATING
  7  LAT 37-16 LON  78-24    ASSIGNED 19
FREDERICKSBURG             VA   OPERATING
  7  LAT 38-17 LON  77-37    ASSIGNED 47
FRONT ROYAL                VA   OPERATING
  7  LAT 38-55 LON  78-10    ASSIGNED 39 80
```

```
HARRISONBURG          VA   OPERATING
  7  LAT 38-27 LON  78-51    ASSIGNED 34 67
LEXINGTON             VA   OPERATING
  7  LAT 37-46 LON  79-26    ASSIGNED 54
LYNCHBURG             VA   OPERATING
  5  LAT 37-24 LON  79- 9    ASSIGNED 16 70 76
MARION                VA   OPERATING
  7  LAT 36-49 LON  81-31    ASSIGNED 50
MARTINSVILLE          VA   OPERATING
  7  LAT 36-41 LON  79-53    ASSIGNED 35 81
NORFOLKPORTSNEWPTNEW  VA   OPERATING   15 33 27
  2  LAT 36-50 LON  76-20    ASSIGNED 21 49 61 71 81
NORTON                VA   OPERATING
  7  LAT 36-56 LON  82-36    ASSIGNED 52
PETERSBURG            VA   OPERATING
  6  LAT 37-11 LON  77-23    ASSIGNED 41 59
PULASKI               VA   OPERATING
  7  LAT 37- 1 LON  80-46    ASSIGNED 37
RICHMOND              VA   OPERATING
  3  LAT 37-33 LON  77-25    ASSIGNED 29 23 65 77 83
ROANOKE               VA   OPERATING
  4  LAT 37-16 LON  79-56    ASSIGNED 27 33
SOUTH BOSTON          VA   OPERATING
  7  LAT 36-42 LON  78-55    ASSIGNED 14
STAUNTON              VA   OPERATING
  7  LAT 38- 9 LON  79- 4    ASSIGNED 36
WAYNESBORO            VA   OPERATING
  7  LAT 38- 4 LON  78-49    ASSIGNED 42
WILLIAMSBURG          VA   OPERATING
  7  LAT 37-14 LON  76-39    ASSIGNED 17
WINCHESTER            VA   OPERATING
  7  LAT 39- 9 LON  78-11    ASSIGNED 28
ABERDEEN              WASH OPERATING
  7  LAT 46-56 LON 123-47    ASSIGNED 58 68
ANACORTES             WASH OPERATING
  7  LAT 48-28 LON 122-37    ASSIGNED 34 46
BELLINGHAM            WASH OPERATING
  6  LAT 48-44 LON 122-28    ASSIGNED 18 24 63 74 83
BREMERTON             WASH OPERATING
  6  LAT 47-32 LON 122-39    ASSIGNED 44 50
CENTRALIA             WASH OPERATING
  7  LAT 46-41 LON 122-57    ASSIGNED 17 80
CLARKSTON             WASH OPERATING
  7  LAT 46-24 LON 117- 2    ASSIGNED 34 40
ELLENSBURG            WASH OPERATING
  7  LAT 47- 0 LON 120-32    ASSIGNED 49 65
EPHRATA               WASH OPERATING   16
  7  LAT 47-14 LON 119-33    ASSIGNED 43
EVERETT               WASH OPERATING
  6  LAT 47-58 LON 122-11    ASSIGNED 22 28
GRAND COULEE          WASH OPERATING
  7  LAT 47-57 LON 118-57    ASSIGNED 37 53 59 69
```

```
HOQUIAM                    WASH  OPERATING
  7  LAT 46-58 LON 123-51     ASSIGNED 52 25
KELSO                      WASH  OPERATING
  7  LAT 46- 8 LON 122-54     ASSIGNED 39 57
KENWICKRICHLANDPASCO       WASH  OPERATING   19 25
  5  LAT 46-11 LON 119- 7     ASSIGNED 31 41 66 77
LONGVIEW                   WASH  OPERATING
  7  LAT 46- 7 LON 122-55     ASSIGNED 33
MOSES LAKE                 WASH  OPERATING
  7  LAT 47- 8 LON 119- 9     ASSIGNED 33 71
OLYMPIA                    WASH  OPERATING
  7  LAT 47- 1 LON 122-52     ASSIGNED 60
OMAK-OKANOGAN              WASH  OPERATING
  7  LAT 48-20 LON 119-34     ASSIGNED 35 17 57 79
PORT ANGELES               WASH  OPERATING
  7  LAT 48- 6 LON 123-27     ASSIGNED 16 54
PULLMAN                    WASH  OPERATING
  7  LAT 46-43 LON 117-11     ASSIGNED 24 81
SEATTLE                    WASH  OPERATING
  2  LAT 47-44 LON 122-24     ASSIGNED 20 26 66 72 82
SPOKANE                    WASH  OPERATING
  4  LAT 47-39 LON 117-28     ASSIGNED 20 26 32 48 64 73 82
STEARNSVILLE               WASH  OPERATING
  7  LAT 47-10 LON 124- 5     ASSIGNED 14 36 42
TACOMA                     WASH  OPERATING   56 62
  4  LAT 47-14 LON 122-29     ASSIGNED 78
WALLA WALLA                WASH  OPERATING   22
  6  LAT 46- 3 LON 118-20     ASSIGNED 44 50
WENATCHEE                  WASH  OPERATING
  7  LAT 47-23 LON 120-18     ASSIGNED 27 55 45
YAKIMA                     WASH  OPERATING   47 29 23
  6  LAT 46-35 LON 120-29     ASSIGNED 75
BECKLEY                    WVA   OPERATING
  7  LAT 37-43 LON  81-16     ASSIGNED 21 66
BLUEFIELD                  WVA   OPERATING
  7  LAT 37-34 LON  81-14     ASSIGNED 41 79
CHARLESTON                 WVA   OPERATING   49
  4  LAT 38-21 LON  81-37     ASSIGNED 43 61 82
CLARKSBURG                 WVA   OPERATING
  6  LAT 39-15 LON  80-20     ASSIGNED 69 75
ELKINS                     WVA   OPERATING
  7  LAT 38-53 LON  79-49     ASSIGNED 40 30
FAIRMONT                   WVA   OPERATING
  6  LAT 39-28 LON  80-10     ASSIGNED 35 57
HINTON                     WVA   OPERATING
  7  LAT 37-41 LON  80-54     ASSIGNED 31
HUNTINGTON                 WVA   OPERATING
  4  LAT 38-24 LON  82-24     ASSIGNED 53
LOGAN                      WVA   OPERATING
  7  LAT 37-49 LON  82- 0     ASSIGNED 23
MARTINSBURG                WVA   OPERATING
  7  LAT 39-26 LON  77-57     ASSIGNED 58 37 68 78
```

```
MORGANTOWN              WVA   OPERATING
  7  LAT 39-37 LON  79-56    ASSIGNED 24 81
PARKERSBURG             WVA   OPERATING   15
  6  LAT 39-15 LON  81-31    ASSIGNED 80
ROMNEY                  WVA   OPERATING
  7  LAT 39-19 LON  78-45    ASSIGNED 18 62
WELCH                   WVA   OPERATING
  7  LAT 37-23 LON  81-37    ASSIGNED 25
WESTON                  WVA   OPERATING
  7  LAT 39- 0 LON  80-29    ASSIGNED 32
WHEELINGSTEUBVLOHIO     WVA   OPERATING
  4  LAT 40-13 LON  80-41    ASSIGNED 51 79
WILLIAMSON              WVA   OPERATING
  7  LAT 37-39 LON  82-14    ASSIGNED 17
ADAMS                   WIS   OPERATING
  7  LAT 43-54 LON  89-47    ASSIGNED 58 71
APPLETON                WIS   OPERATING
  6  LAT 44-14 LON  88-24    ASSIGNED 42
ASHLAND                 WIS   OPERATING
  7  LAT 46-34 LON  90-53    ASSIGNED 15 28 78
BEAVER DAM              WIS   OPERATING
  7  LAT 43-29 LON  88-48    ASSIGNED 52
BELOIT                  WIS   OPERATING
  6  LAT 42-30 LON  89- 0    ASSIGNED 57
CHILTON                 WIS   OPERATING
  7  LAT 44- 1 LON  88-10    ASSIGNED 31
EAU CLAIRE              WIS   OPERATING
  6  LAT 44-47 LON  91-29    ASSIGNED 25 19
FOND DU LAC             WIS   OPERATING
  6  LAT 43-47 LON  88-27    ASSIGNED 54
GREEN BAY               WIS   OPERATING
  5  LAT 44-30 LON  88- 0    ASSIGNED 70 83
JANESVILLE              WIS   OPERATING
  6  LAT 42-40 LON  89- 0    ASSIGNED 63 73
KENOSHA                 WIS   OPERATING
  5  LAT 42-34 LON  87-49    ASSIGNED 61
LA CROSSE               WIS   OPERATING
  6  LAT 43-48 LON  91-14    ASSIGNED 38 72 32
MADISON                 WIS   OPERATING   21 27 33 15
  4  LAT 43- 4 LON  89-21    ASSIGNED
MANITOWOC               WIS   OPERATING
  6  LAT 44- 4 LON  87-38    ASSIGNED 65
MARINETTE               WIS   OPERATING
  7  LAT 45- 4 LON  87-36    ASSIGNED 32 38 21
MILWAUKEE               WIS   OPERATING   24 36 18
  1  LAT 43- 1 LON  87-54    ASSIGNED 30
MONROE                  WIS   OPERATING
  7  LAT 42-34 LON  89-38    ASSIGNED
OSHKOSH                 WIS   OPERATING
  6  LAT 44- 0 LON  88-29    ASSIGNED 48 81
PARK FALLS              WIS   OPERATING
  7  LAT 45-55 LON  90-27    ASSIGNED 18 47
```

```
PLATTEVILLE           WIS   OPERATING
  7  LAT 42-44 LON  90-28    ASSIGNED 74
PORTAGE               WIS   OPERATING
  7  LAT 43-33 LON  89-27    ASSIGNED 17
PRAIRIE DU CHIEN      WIS   OPERATING
  7  LAT 43- 1 LON  91- 8    ASSIGNED 34
RACINE                WIS   OPERATING
  5  LAT 42-43 LON  87-47    ASSIGNED 49 55
RHINELANDER           WIS   OPERATING
  7  LAT 45-38 LON  89-22    ASSIGNED 22 51
RICE LAKE             WIS   OPERATING
  7  LAT 45-29 LON  91-42    ASSIGNED 21 52
RICHLAND CENTER       WIS   OPERATING
  7  LAT 43-19 LON  90-22    ASSIGNED 76 66
RIVER FALLS           WIS   OPERATING
  7  LAT 44-51 LON  92-37    ASSIGNED 73
SHEBOYGAN             WIS   OPERATING
  6  LAT 43-44 LON  87-41    ASSIGNED 59 78
SHELL LAKE            WIS   OPERATING
  7  LAT 45-44 LON  91-54    ASSIGNED 30 69
SPARTA                WIS   OPERATING
  7  LAT 43-56 LON  90-47    ASSIGNED 50
STEVENS POINT         WIS   OPERATING
  7  LAT 44-30 LON  89-31    ASSIGNED 20 26
STURGEON BAY          WIS   OPERATING
  7  LAT 44-50 LON  87-20    ASSIGNED 44 62
VIROQUA               WIS   OPERATING
  7  LAT 43-34 LON  90-51    ASSIGNED 82
WAUSAU                WIS   OPERATING   77
  6  LAT 44-57 LON  89-37    ASSIGNED 16 46 64
WISCONSIN RAPIDS      WIS   OPERATING
  7  LAT 44-22 LON  89-47    ASSIGNED 14 75
BUFFALO               WYO   OPERATING
  7  LAT 44-20 LON 106-40    ASSIGNED 29 35 51 61 74 80
CASPER                WYO   OPERATING
  6  LAT 42-50 LON 106-17    ASSIGNED 22 32 41 50 60 66 72 78
CHEYENNE              WYO   OPERATING
  6  LAT 41- 8 LON 104-47    ASSIGNED 28 34 62 73 79
CODY                  WYO   OPERATING
  7  LAT 44-30 LON 109- 1    ASSIGNED 24 46
DOUGLAS               WYO   OPERATING
  7  LAT 42-46 LON 105-21    ASSIGNED 14 30 69
EVANSTON              WYO   OPERATING
  7  LAT 41-15 LON 110-57    ASSIGNED 14 75
GILLETTE              WYO   OPERATING
  7  LAT 44-17 LON 105-28    ASSIGNED 31 18 55
GREEN RIVER           WYO   OPERATING
  7  LAT 41-32 LON 109-27    ASSIGNED 16 35 56 66 72 78
GREYBULL              WYO   OPERATING
  7  LAT 44-29 LON 108- 4    ASSIGNED 40 52 73 79
LANDER                WYO   OPERATING
  7  LAT 42-48 LON 108-42    ASSIGNED 17 39 59 65 71 81
```

```
LARAMIE               WYO   OPERATING
  7  LAT 41-18 LON 105-34    ASSIGNED 18 36 70
LOVELL                WYO   OPERATING
  7  LAT 44-50 LON 108-22    ASSIGNED 36 62
LUSK                  WYO   OPERATING
  7  LAT 42-46 LON 104-27    ASSIGNED 19 40 65 75
NEWCASTLE             WYO   OPERATING
  7  LAT 43-51 LON 104-11    ASSIGNED 28 48
POWELL                WYO   OPERATING
  7  LAT 44-44 LON 108-44    ASSIGNED 30 68
RAWLINS               WYO   OPERATING
  7  LAT 41-45 LON 107-12    ASSIGNED 21 31 37 43 54 63
RIVERTON              WYO   OPERATING
  7  LAT 43- 0 LON 108-22    ASSIGNED 23 33
ROCK SPRINGS          WYO   OPERATING
  7  LAT 41-34 LON 109-11    ASSIGNED 25 45
SHERIDAN              WYO   OPERATING
  7  LAT 44-48 LON 106-56    ASSIGNED 27 56
THERMOPOLIS           WYO   OPERATING
  7  LAT 43-37 LON 108-10    ASSIGNED 15 28 75
TORRINGTON            WYO   OPERATING
  7  LAT 42- 2 LON 104- 9    ASSIGNED 27 59
WHEATLAND             WYO   OPERATING
  7  LAT 42- 3 LON 104-55    ASSIGNED 24 57
WORLAND               WYO   OPERATING
  7  LAT 44- 0 LON 107-56    ASSIGNED 34 57
WORLAND               WYO   OPERATING
```